# The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLVI. CHICAGO, ILLINOIS, JUNE 2, 1906. No. 22.


## Original Articles

### SOME OF THE RECENT ASPECTS OF QUARANTINE AND ITS RELATION TO PUBLIC HEALTH.*


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Quarantine may be likened to jails, penitentiaries, houses of detention and other necessary evils of this world. The very absurdity of the word quarantine, coming from the Italian *quaranta*, meaning 40, is an indication that we are dealing with a condition resulting from an imperfect social fabric.

It does not take a prophet to foresee the time when society will be developed to that state of civilization and the sanitary sciences will have reached that point of excellence when restrictive quarantines will be entirely unnecessary. But the millennium is a long way off and we shall not see the end of quarantine restrictions in our day and generation.

In the Middle Ages, when the Hanseatic League of cities held its commercial supremacy, we learn that Venice detained ships arriving at that port with cases of pestilence aboard, for a period of forty days. While isolation and detention had been practiced to a certain extent prior to that time, this was the first instance of the systematic application of maritime quarantine methods, and they have survived in a modified form to this day. Since then, in addition to maritime quarantines, we have land quarantines, interstate quarantines, municipal quarantines, house quarantines, cattle quarantines and quarantines for revenue only. Some of these, especially municipal and interstate quarantines, have developed to large proportions so that they are now replete with intricate medicolegal problems and have become highly specialized like other branches of the medical sciences.

I shall confine myself to a discussion of some of the problems of maritime quarantine and take the opportunity to express some stray thoughts on the underlying principles governing the federal quarantine service, giving some of the recent developments in quarantine methods, and finally pointing out a few of the lessons to be learned from the late epidemic of yellow fever in New Orleans.

#### THE FEDERAL QUARANTINE SERVICE.

To those not familiar with the principles underlying the organization and methods used by the Public Health and Marine-Hospital Service in its maritime quarantine work it may be interesting to hear the story, briefly told, of how the government protects its citizens.

The object of maritime quarantine is the protection of a country against foes often more deadly than those of war. It is a coast defense against exotic pestilence. We do not quarantine against tuberculosis, scarlet fever, malaria, typhoid fever and other serious communicable diseases which, like the poor, are always with us. We only guard against the invasion of such strangers as, once introduced, might work havoc in our midst. In view of this fact the federal government recognizes but six quarantinable diseases: Cholera, yellow fever, plague, typhus fever, small pox and leprosy.

Some diseases, for instance relapsing fever, have been stricken from the list of quarantinable diseases and the restrictions against others have been very much lightened in recent years. Epidemics of relapsing fever require the sum total of evil sanitary conditions, including overcrowding, filth, poor and insufficient food, vermin, etc.; these conditions do not exist in a sufficiently high degree even in the slums of our centers of population to favor the spread of this disease. Only last winter victims of relapsing fever were admitted into one of our large seaport cities and treated at one of the general hospitals without any more danger to the city than a case of rheumatism.

Our seaports in the yellow-fever zone could render themselves equally secure against yellow fever and would not then fear to admit cases of that disease, as Havana has done for several years.

Another instance of the lightening of quarantine restrictions is that we now no longer detain the vessel itself on account of infection. After proper measures of disinfection, or the extermination of mosquitoes, rats and other intermediate hosts, have been accomplished, the vessel with its cargo is permitted to dock while the personnel is detained at the quarantine station. The introduction of this practice has saved commerce a certain amount of loss and delay. Restrictive measures regarding typhus fever are no longer so stringent as they formerly were. With the comparative degree of improved sanitation of most of our seaports there is little danger of typhus fever occurring in epidemic form. Therefore, if a vessel in good sanitary condition arrives with a case of typhus fever aboard, and the patient has been isolated and other measures taken to prevent its spread, only the patient is removed, the sick bay purified, and the vessel with all its cargo, crew and passengers permitted to land. With the increase of our knowledge of the causes and methods of transmission of the epidemic diseases, our quarantine methods are not only more precise, but may now be carried out with every assurance of success.

I have called maritime quarantine a coast defense. The likeness is stronger than a mere figure of speech. At one time countries tried to build an impassable barrier against the quarantinable diseases which they feared, but all such systems of quarantine, like the great wall of China, are doomed to failure. The principle underlying the modern system of quarantine consists in

* Read before the Medical and Chirurgical Faculty of Maryland.

fortifying the strategic points along the coast with a complete armament composed of lazarettos, barracks of detention and observation, disinfecting apparatus, wharves and vessels, and laboratories for the detection of suspected disease. In addition to these quarantine fortresses, which are the backbone of our line of defense, our country, having such a long littoral, must also have a flying squadron consisting of a floating disinfecting plant, a traveling laboratory, and trained officers and men to concentrate quickly on any particular point of attack.

The federal government operates several floating disinfecting plants, kept at favorable places, is equipped with two traveling laboratories, and has officers trained to make scientific diagnoses of suspected cases; it also has officers who have had long and valuable experience in practical disinfection and the management of epidemic diseases; all these forces may be concentrated on any given point with little loss of time.

Another principle underlying the quarantine defense at small and remote ports is an inspection service. Many small ports, having little communication with foreign countries, are not visited by quarantinable diseases for years. Manifestly it would be poor policy and exceedingly expensive to maintain at all of these minor ports the cumbersome and complicated equipment necessary at a large and busy port, to meet such infrequent emergencies.

At certain of our ports we concentrate this work at favorable places known as "stations of refuge." These places are usually situated on islands along the highways of ocean trade and serve as detention, disinfection and quarantine stations for a number of coast cities.

### THE LIMITATIONS OF DISINFECTANTS.

Disinfection is no longer regarded as the panacea that it formerly was. There can be no doubt that at one time we had an exaggerated notion of the powers and proper sphere of disinfection in sanitary work. I do not mean to belittle the great value of disinfection and disinfectants in preventing the spread of communicable diseases caused by bacteria. We now know that most bacterial parasites causing communicable diseases which occur in epidemic form in man are not very long lived, but usually die spontaneously within a comparatively short time.

We have further learned that infection is probably more often carried by means of mild cases or through the medium of a third person than by means of infected objects. For instance, the diphtheria bacillus may be in the throat of persons enjoying good health. When we learned that many communicable diseases are transmitted from man to man through intermediate hosts, especially insects and domestic animals, we found that ordinary disinfectants were not nearly so valuable as insecticides.

Sulphur dioxid still remains one of the oldest and the most valuable of our disinfecting agents, despite its destructive chemical action. It destroys all forms of life, both vegetable and animal.

Formaldehyd gas is seriously limited in this respect, as it has little, if any, toxic action on insects and higher animals. It is, however, exceedingly poisonous to bacteria; but even in this regard it has further limitations, for it is not effective when used in cold or dry weather. Past Assistant Surgeon T. B. McClintic, who worked in the hygienic laboratory under my direction during the past year on this question in relation to car sanitation, has drawn the conclusion that formaldehyd gas, no matter by what method it is evolved, is useless as a disinfectant, provided the relative humidity in the atmosphere is less than about 65 per cent. and the temperature below 60 F. In other words, in cold or dry weather formaldehyd can not be depended on

### SANITATION THE ONLY CURE FOR QUARANTINE RESTRICTIONS.

The necessity for quarantine arises from the lack of sanitation. If all communities, especially seaports, were to place their cities in the best sanitary condition, in accordance with the teachings of modern science, there would be little danger of disease spreading to epidemic proportions and practically no need of quarantine restrictions. Modern sanitation is very expensive. It means thorough drainage, proper disposal of wastes, good paving, pure water, and cities constructed with sufficient breathing spaces between houses, so that all the inhabitants may receive their proper proportion of fresh air and sunshine; it also includes the destruction of mosquitoes, rats and other vermin which help to spread disease, and a proper supervision of the food supply.

This thought, which has been so often and so ably advocated by Surgeon-General Walter Wyman, is the great basic principle which actuates the Public Health and Marine Hospital Service in its sanitary work. In line with this principle the surgeon-general has many times urged on the neighboring Central American republics and other governments, with which our country has intimate commercial relations, to take steps looking to a solution of the problems affecting the health of their coast cities. Prompted by this teaching, one of these countries, Honduras, has recently requested that an officer of the Public Health and Marine-Hospital Service be detailed to take charge of its sanitary measures. Our own cities in the yellow fever zone might well take the lesson to heart by exterminating the *Stegomyia fasciata* and so insure their cities against epidemics of yellow fever.

As an outgrowth of this line of action the government has developed what may be termed a prophylactic quarantine, that is, measures are taken at the ports of departure to prevent ships from becoming infected. Medical officers of the service are stationed at seaports in all parts of the world where danger exists of conveying cholera, plague and yellow fever to the United States through the medium of ocean traffic. The officers at these foreign ports issue the bill of health to the departing vessel, supervise the loading, and the embarkation of passengers and crew, so as to ensure that no disease is taken aboard, either in the cargo, the food, water or among the personnel. When necessary, the ship is detained for disinfection or other measures at the foreign port, to render it safe from a quarantine standpoint. These foreign inspectors relieve ocean travel of many annoying quarantine restrictions and are a potent factor in safeguarding the health of our country. Those who appreciate the important service rendered by these foreign quarantine and immigration inspections hope to insure their continuance through legislative and treaty enactments.

Maritime quarantine, to be effective, must be uniform and centralized, for a chain is only as strong as its weakest link. Viewed broadly, maritime quarantine concerns the federal government in much the same way as does the enforcement of the revenue laws; and, further, it must be regarded as the duty of the federal government to protect the health of its citizens against the introduction of foreign germs, just as it protects us against the invasion

of foreign foes. It is only in the enforcement of maritime and interstate quarantine that the government is legally concerned, and sometimes feels the embarrassment resulting from the divided responsibility, owing to the present imperfect laws. The federal government never can and never will take the place of the state and local health authorities, for municipal and state sanitation are largely local questions. In fact, there is greater usefulness than ever for state boards of health and municipal health officers.

The federal government, through its system of cooperation with state authorities, is the medium by which local sanitary measures throughout the country are coordinated. These meetings between the state and federal sanitary authorities are helpful in encouraging active sanitation and further helpful toward uniformity in the health laws and administration throughout the country.

### RECENT YELLOW FEVER WORK AND ITS LESSONS.

That it is possible to exterminate the yellow fever mosquito in a large community in a comparatively short time was satisfactorily demonstrated last summer at New Orleans. The sanitary work in New Orleans was marked with such success because it concentrated almost its entire energies on two points: 1. The screening of the sick. 2. The destruction of mosquitoes.

Those who have been in New Orleans in ordinary times need not be told of the unendurable extent to which the city was pestered with mosquitoes, particularly the *Stegomyia fasciata*. The fight against the mosquito, under the personal direction of Surgeon J. H. White, was so successful in New Orleans that when we arrived there in September, we had the greatest difficulty in finding the *Stegomyia fasciata* at all and it was only after setting many traps in many parts of the city that Passed Assistant Surgeon Goldberger and myself were able to secure enough of them to breed for our laboratory work.

Having come to the subject of yellow fever, I think it will be profitable to review some of the recent advances in the study of this disease which have a bearing on quarantine and sanitary work. No discussion of yellow fever would be complete without the mention of the Army Medical Commission, headed by Surgeon Walter Reed, whose work has helped us so much in the prevention of this disease. The discovery that yellow fever is transmitted in nature only through the bite of the *Stegomyia fasciata* has been the stimulus that has led to further work on this disease by men of science throughout the world.

Several commissions, composed of Drs. Salimbeni, Marchoux and Simond, have been sent from the Pasteur Institute, Paris, to Rio de Janeiro, to study yellow fever; also, a German commission consisting of Drs. Neumann and Otto have made further contributions which have naturally advanced our knowledge of the subject. The Public Health and Marine-Hospital Service had another working party in the field last summer during the latter part of the epidemic at New Orleans. Two questions were investigated: 1. The cause of the disease. 2. The alleged hereditary transmission of the yellow fever parasite in the mosquito. We are considerably handicapped in studying yellow fever clinically because of the many instances of mild and atypical cases. Until the cause of the disease is discovered and a certain means of a diagnosis is at hand, there will be great confusion in symptomatology and diagnosis.

The subject, therefore, has important practical, as well as scientific interest. We spent much of our time in attempting to grow the yellow fever parasite.[1]

### ATTEMPTING TO GROW THE YELLOW FEVER PARASITE.

In view of the fact that the infective principle causing yellow fever may pass through the close-grained pores of a Pasteur-Chamberland B filter, it seemed to us hopeless, with the limitations of the present microscope, to expect to see the causative agent of this disease by direct examination of the blood.

Novy's work with trypanosomes, both his success in their artificial cultivation and his filtration experiments, indicating the possibility of an "ultramicroscopic" phase in their developmental cycle, suggested to us the possibility of cultivating by similar methods the yellow fever parasite and thus, perhaps, of developing a stage in its life cycle, which might readily be visible. We attempted, therefore, to grow the parasite of yellow fever in the water of condensation of blood-agar tubes.

The culture tubes were prepared in several different ways; both human blood (non-immune) and rabbit's blood were used. Some tubes were prepared with the whole and some with the defibrinated blood. When the whole blood was used it was quickly added while fresh to melted agar at 42 C., in the proportion of about two parts of blood and one of agar. After mixing, the tubes were slanted and allowed to set. The defibrinated blood was prepared by whipping in the usual way and then added to the melted agar in about the same proportions, as before stated. After standing a short time the blood-agar slants thus prepared, developed from several drops to about 1 c.c. of water of condensation. A drop or two of blood from typical cases of yellow fever taken from the arm vein during the early stages of the disease, was planted into this water of condensation.

Other cultures were prepared with much larger quantities of the yellow fever blood, using the yellow fever blood itself as a part of the culture medium. Two tubes containing about 2 c.c. of melted agar and about 4 c.c. of fresh yellow fever blood, were added as quickly as possible after withdrawal from the vein. Other tubes were similarly prepared with the defibrinated yellow fever blood.

Some of the cultures were kept in the incubator at 37 C. and others at room temperature. Of the latter, some were kept in the dark and others exposed to the light, in order to simulate the conditions, as they appear to occur in the mosquito.

The water of condensation was examined from time to time both in hanging drop and in stained smears. It was found to contain large numbers of bodies of various sizes and shapes, some of them exhibiting curious and exaggerated Brownian motion. All of the particles were interpreted as generation products, mostly from the cellular elements of the blood.

### HEREDITARY TRANSMISSION OF THE YELLOW FEVER PARASITE IN THE MOSQUITO.

The question of the hereditary transmission of the yellow fever parasite from the *Stegomyia fasciata* to its progeny is of interest both biologically and practically. Reasoning by analogy, such transmission can not be regarded as impossible, as it is known to occur in some probably closely allied diseases, as through the tick in Texas fever and canine piroplasmosis. Schaudinn has satisfied himself that hereditary transmission of the

1. Rosenau, M. J. and Goldberger, Joseph: "Attempts to Grow the Yellow Fever Parasite. The Hereditary Transmission of the Yellow Fever Parasite in the Mosquito." Report of Working Party No. 3. Bulletin No. 15 Yellow Fever Institute, Public Health and Marine-Hospital Service.

tertian malarial parasite (*Plasmodium vivax*) occurs in *Anopheles*, and recently Dutton and Todd have shown that the spirochete of the tick fever of the Congo is passed from tick to tick through the egg. To the sanitarian the question is of interest in its bearing on the problem of the recrudescence of yellow fever.

The recrudescence of epidemics of yellow fever has heretofore been explained in one of two ways: 1. A *Stegomyia fasciata* that had become directly infected by feeding on a yellow fever patient had survived (as they are experimentally known to be able to do); 2. In the interval between the epidemics the infection had been continued by unrecognized cases and on the recurrence of favorable conditions the disease would reassume epidemic proportions.

From time to time a third explanation has been advanced, namely, the transmission of the infection from the mother mosquito through the eggs to her progeny which, under favorable circumstances, were capable of giving the disease to a susceptible individual, without themselves directly having had access to a yellow fever patient. This explanation has now received the support of an experimental case of yellow fever induced by the sting of a *Stegomyia fasciata* apparently hereditarily infected. The case is reported by Marchoux and Simond in a paper on the hereditary transmission of the yellow fever virus in the *Stegomyia fasciata*. Against this one positive case we obtained negative results in attempted inoculations of 13 non-immunes.

In an endeavor to account for the divergence of our results from those of the French workers, we considered several factors in the problem, failure to comply with any of which might readily be productive of negative results. We believe, however, that our work, so far as we can judge from the details in their paper, closely parallels the work of Marchoux and Simond. Naturally, the first factor which arose for consideration was whether the mothers of the *Stegomyia fasciata* used by us for the inoculation of our non-immunes were infected. Marchoux and Simond state that the mother of the insect whose sting produced the positive case of fever had been made to feed on several (number not stated) of their yellow fever patients, in order to determine a heavy infection. In our work one of our mother mosquitoes had three feedings of yellow fever blood from two severe cases during the early stages of the disease. Two other mother mosquitoes had one feeding of yellow fever blood early in the disease.

That the interval between the infecting feed and oviposition is an important element in the transmission of the infection through the eggs to the progeny, if such transmission ever takes place in yellow fever, must be evident. Marchoux and Simond do not report clearly on this point; they state simply that their mosquito was 20 days old at the time of oviposition and that some time prior to the ovipositing it had been made to sting several yellow fever patients.

Another important factor in the problem, and one to which Marchoux and Simond call attention, is the time needed by the hereditarily infected mosquito to become infective. In their case this was 22 days. In our work the inoculations were carried up to and including the forty-ninth day.

A factor in the problem, which is of prime importance and which must always be reckoned with in estimating the value of negative results, is the susceptibility of the subject, used for the inoculation of the disease. We were careful to select only those who, we were satisfied, never had had the disease.

In view of the negative results recorded by us in our efforts to confirm the positive work of Marchoux and Simond, we feel that additional work will be necessary to settle the question of the hereditary transmission of the parasite of yellow fever in the *Stegomyia fasciata*. Nevertheless, the sanitarian will do well to continue his measure of mosquito destruction after the suppression of an epidemic.

### TRUTH IS MIGHTY AND HAS PREVAILED.

In our work on yellow fever at New Orleans last summer it was interesting to note the great difference in the practical work of suppressing this epidemic from similar work in former days. Reed, Carroll and Agramonte had published their epoch-making discovery but five years prior. We know that administration, especially in sanitary matters, lags far behind the sanitary sciences. This conservatism is sometimes proper and usually inevitable. In this instance, therefore, we have no cause for complaint when we review the magnificent and successful work in suppressing the epidemic of yellow fever last summer.

In the few years which have elapsed we have learned to fear fomites no longer. This point was brought home very strongly to me when I noticed that the soiled bedding, towels and personal linen from the yellow fever hospital were daily carried, without any precautions, to an outside laundry. We can well imagine how such a procedure would have been regarded prior to our exact knowledge on this subject.

Another striking instance showing how quickly the public mind has been educated to the true facts concerning the disease came to my attention: In the early part of October yellow fever appeared in virulent form in a small Mississippi town. The mother of a certain family—the first to be stricken—fell ill with the fever and died in five days. The head of the household, an intelligent man, fearing that the disease would take other members of his family and not being able to secure proper nursing and medical attention in the small town in which he resided, came with his six children to New Orleans and went directly to the yellow fever hospital, being convinced, he said, that this well screened hospital, although full of yellow fever patients in all stages of the disease, was the safest place in the epidemic area.

I might cite other instances in New Orleans in which patients were attacked by yellow fever in boarding houses. When the mosquitoes in the house were destroyed and the patient screened or removed, the other boarders did not leave, as they had entire confidence in the fact that, although they had been in contact with a sick boarder, they were in no danger from further spread of the disease in view of the measures taken.

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## THE RENAISSANCE OF THERAPEUTICS.*

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A new start in life, a new lease of life, a new movement—that is what we are witnessing to-day, I think, in the theory and practice of therapeutics. There have been other such new shoots before on the old tree, and doubtless there will be many more. Our time is not the turning point of all the ages. Nevertheless, I think I can bring before you a group of phenomena which, taken together, constitute impressive evidence that we have received a new impetus along the old road.

* Read by invitation before the Norfolk Medical Society, Norfolk, Va., April 17, 1906.

Surgery was the last great wave of new life in therapeutics, for of course we must recognize surgery as belonging essentially among the resources of modern therapeutics. Despite its brilliant and most beneficent successes, I think we Americans are somewhat prone to exaggerate the service which surgical therapeutics is capable of performing. Certainly not more than one-tenth of the sick people in the world are capable of being benefited by surgery. The other nine-tenths must, for the present, and I believe also for the future, be helped, if at all, by other methods of cure.

Ten years ago surgery was triumphantly invading the territory hitherto supposed to belong to other types of therapeutics. I believe that to-day the limit of that advance has been nearly reached. There are even signs of retreat. Surgeons are less anxious than formerly to operate on the brain, on the kidney of Bright's disease, and on bleeding ulcers of the stomach, and if our profession advances in honesty as fast as it has in acumen we shall, all of us, live to see fewer operations on the uterus and its appendages.

The hygienic treatment of osseous and glandular tuberculosis and the treatment of tuberculous joints by Bier's method of passive hyperemia, are limiting the applications of surgery on one side as orthopedic apparatus have long since limited them on another. I doubt whether tuberculosis will be operated on as much ten years hence as it is to-day. Cancer of the stomach on the other hand will be operated on far oftener and we hope earlier, thus balancing up the account and leaving surgery on the firm ground of its well-established usefulness, neither advancing nor retreating.

As surgery settles into its place, we see rising a new wave of therapeutic activity along other lines. I will mention first some of the most obvious of its manifestations. Two important bodies of physicians, each body national in its scope, will meet within the next two months, the Association of American Physicians at Washington and the American Medical Association at Boston. Each of these assemblies plans a symposium on therapeutics, and in each such a symposium is a decided novelty. Indeed, I believe that it is the first extended discussion of therapeutics ever entered on by the Association of American Physicians in the whole twenty years of its organized existence.

This state of things would be very puzzling and not a little shocking to the laity, who are not used to the fact that a large part of the labors of the modern physician are and ought to be spent on diagnosis. But there are plenty of parallels in other fields. The statesman and the social worker are in the same position. Without accurate diagnosis of the evil confronting them it is as dangerous for them as it is for us physicians to attempt remedial action.

We have reason to defend, then, the great emphasis placed on diagnosis by the honest and competent medical man as it is by the honest and competent sociologist or legislator. The public always wants a quick remedy and is impatient of prolonged and careful investigation. But it is always the business of the wise public servant to keep the public waiting for a remedy until he has done his best to find out what is the matter.

While we rightly defend the insistence on accurate diagnosis which characterizes all the most competent physicians of our time, we ought not to be blind to the fact that it is possible for us to get so much interested in diagnosis (that necessary preparation for good treatment) that we use up our best energy before we get round to the knotty problems of therapeutics. When the hospital physician has carefully and skilfully diagnosed the new cases in his clinic he is apt to go home to his luncheon and leave his externe to treat them. This habit exemplifies, I think, a deep and widespread tendency among the physicians of our time. Like the man who went back so far for the run preparatory to jumping a brook that he forgot to jump it at all, we sometimes expend a wealth of diagnostic energy altogether out of proportion to our therapeutic attempts.

We used to diagnose with admirable accuracy the precise extent and degree of the tuberculous process in a patient's lungs, quote sardonically the saying that "the treatment of consumption is opium and lies," and proceed accordingly and with great swiftness to the close of the case. We used to fall back on nihilistic epigrams about the self-limitation of disease, the omnipotence of Nature, and the powerlessness of man. It was in this spirit that a wise, conscientious, very successful physician said to me twenty years ago: "What! You're going to study medicine? Oh, don't, or if you do, don't practice it. The study of it, the science of it, is heaven, but the practice of it is hell."

Now in contrast with this we are beginning to see a new trend in therapeutics to-day. That trend shows itself first of all in what I call:

### I. THE AGGRESSIVE SPIRIT IN THERAPEUTICS.

The term "aggressive treatment" well characterizes the new method which we have watched Dr. Hawes[1] carrying into effect at the Massachusetts General Hospital. It has been a revelation to me. In the past we have offered the hospital cases of tuberculosis our advice on printed slips, supplemented by a few minutes rather perfunctory talk, and by various prescriptions. If the patients were discouraged at the program we offered them (rest in the open air and forced feeding), and drifted away through the hands of the quack to their deathbeds, we let them go and turned to the next patient.

The new method is to reinvigorate the patient's courage: (a) by long, patient and repeated explanations; (b) by taking (and letting him see that you take) a personal interest in his cure; (c) by the class method whereby one discouraged patient gets hope by hearing and seeing the success of the treatment in other cases; (d) by taking up and helping him to solve some of the practical objections to carrying out the cure which are likely to arise in his mind.

"How can I sleep out doors?"

"Your roof, your back yard, your piazza top, your balcony."

"How shall I keep from freezing?"

"We will show you how to dress and to cover your head on cold nights."

"But how can I leave my work and find money to buy a tent and a steamer-chair, eggs, milk, olive oil and all that you say I need?"

"We will try to interest your lodge, your church, your mutual benefit society, and if all these fail, we will lend you the money without interest."

The old way was to say: "Well, if people will be foolish, what can we do? We can not undertake their education. If they will come here in the proper spirit and do what we tell them we will try to help them, but if they don't want to get well we are helpless." The new way is to undertake their education, to take them into our confidence and show them what we are trying to do, to

1. Hawes, John B.: "The Early Diagnosis and the Aggressive Treatment of Pulmonary Tuberculosis in an Out-Patient Clinic," Boston Med. and Surg. Jour., April 5, 1906.

explain how and why air and food and not drugs are what they need, and to demonstrate to them by ocular evidence—photographs, models—the means of carrying out the treatment and the result of it: cured patients.

Further, an essential of the type of therapeutics which I am now discussing is a patient attention to "fussy" details, which not many good diagnosticians care for. This supervision of details is best carried out in this as in all fields of therapeutics by a nurse. Most women are far better at such things than most men, and the visiting nurse is coming to be as essential a part, I believe, of the therapeutics of this as of many other types of disease.

The results of this aggressive type of treatment are remarkable. In the cold, damp, changeable climate of Boston we are now curing not merely the ideal patients, who have an incipient lesion, good courage and backbone, a country house and real intelligence, but some of the stupid, discouraged, slum-worn cases that we used to abandon as (under the circumstances) hopeless.

Let me recapitulate the essentials of what I have called the aggressive treatment of any disease:

1. We take the patient into our confidence, as ex-President Cleveland[2] has recently begged all physicians to do.

2. We tell him the truth, explain his malady and the means of its cure.

3. We attempt to meet the mental side of the problem by appropriate mental treatment.

4. We try to meet the material and economic side of the case by calling on the resources of his relations, friends and neighbors and by contriving in his home such makeshifts as ingenuity can suggest.

5. We pay patient and long-continued attention to the details of his treatment, the amount and character of his food, his sleep, his hours outdoors, his clothing, his temperature, his weight, as well as to the signs of his chest. In this work we rely on the assistance of women, trained nurses or volunteers, as it is essential that we should.

As another example of what I have called the aggressive spirit in modern therapeutics, let me remind you of the methods of inspecting the health of school children recently brought to a high state of perfection in New York City and now springing up in Philadelphia, Boston and other cities.

The old method was to have the school physician call at the school and examine any children who had complained to their teacher of feeling sick. The physician's attitude was characteristically passive. He would see whoever came to him with complaints. If the disease were contagious he would send the child home and demand isolation; if the case was non-contagious he would recommend the child's family to do something about it, sending the child home with a printed notice which the parents could not read or understand and which, therefore, passed unheeded. The new method is to make a general physical examination of every child in the school at least once a year, whether it complains or not, and if, as is usually the case, a large proportion of the children are partially deaf or partially blind (owing to adenoids or refractive errors), the authorities do not rest content with good advice to the parents, advice couched in such terms and delivered at such long range that it is 1,000 to 1 it will have no effect. Instead of this they come to close terms with the actual details of their problem in the way which experience shows to be the best and surest, namely, through a nurse. A nurse takes the child home, explains the matter in patient detail to the indifferent or stupid parents and finally succeeds in almost every case in getting something done.

In many cases the nurse does it herself. In New York the nurses now treat and cure many cases of skin disease which, under parental neglect or the rare and hasty ministrations of the family physician, used formerly to hang on and deprive the child of its schooling for weeks and weeks. If she does not actually treat the cases she makes treatment possible by taking the child to a hospital for proper care.

In one school district in Boston, previously "inspected" and found healthy by the school physician, the school nurse found within three weeks 27 cases of adenoids causing deafness, 51 cases of defective vision, 7 running ears, 2 cases of scabies and so on. But it is on the treatment, not the diagnosis, of these cases that I wish to insist. That treatment is characterized by the same features to which I called attention in our tuberculosis work:

1. By open-and-above-board explanation of the disease to the persons concerned—this time the parents.

2. By attending to the mental, material and economic aspects of the problem.

3. By paying especial attention to the details of the case through a nurse.

Does all that I have described constitute any addition to the science of therapeutics? No, not to the science, but to its effectiveness in its application. The new life in therapeutics appears not so much in what the man of science conceives as in the benefit received by the patient.

### II. THE PART PLAYED BY THE PUBLIC.

The increasing and intelligent interest taken by the public in the treatment of disease is the next aspect of the present therapeutic renaissance to which I invite your attention.

The great and beneficent activity against tuberculosis which has recently sprung up all over the country would have been impossible but for a wholly new attitude on the part of the public. The lay public is now doing fully as much as the physicians in this matter. The tuberculosis exhibits, the new hospitals for phthisis, the laws against spitting (and they are beginning to be enforced), the free examination of sputa and free disinfection of homes are made possible only by the new interest and by the consequent liberality and co-operation of the public. The lay public must pay for these things and it must co-operate to make them effective; not infrequently it goes further and itself initiates the reform. I can never forget the case of an intelligent New Hampshire lawyer who, after coming dangerously near to death from consumption (owing to the lack of proper hygienic treatment from his physicians), cured himself of the disease by following the treatment outlined in an account of the first tuberculosis exhibit at Baltimore, printed in the *Review of Reviews*. The interest of the laity in that exhibit and the evidences of that interest shown in its publication as news in the *Review of Reviews* was the means of bringing to this patient the cure which had not been put into his hands or suggested to him by any of the three physicians whom he had consulted.

What are these tuberculosis exhibits which, first starting in Baltimore, have now been successfully repeated in New York, Philadelphia, Boston, Chicago and other cities? They are simply a piece of *medical education offered free to the public*. They have some of the

2. Cleveland, Grover C.: Address at the 100th Anniversary of the New York Medical Association, Albany, Jan. 31, 1906.

features that I have mentioned as characteristic of the therapeutic renaissance of our day: (*a*) Taking the public into our confidence and appealing directly to its understanding in order that it may actively co-operate in the treatment instead of blindly following directions; (*b*) giving full attention to the details of the application of our therapeutic principles, so that they may be as effective as possible.

That we shall limit this medical education of the public to the single subject of tuberculosis I do not for a moment believe. About malaria, typhoid, yellow fever and other diseases the public must be given the fullest information that we can make them take if we are to fight these diseases successfully.

By slight, hardly noticeable steps, we have arrived at a standpoint commanding a prospect that would have astonished our fathers. We are teaching the public medicine as fast and as far as we can. The fear of alarming them, of leading them to brood over imaginary ills and to attempt recklessly and disastrously to doctor themselves —all these fears prove groundless. Why? Because the public has already drank as deep as it can of the ills which we are now so fearful lest they taste.

The public is already as groundlessly and nervously alarmed about disease as they can be made by the skill of advertisements intended to produce just this effect. So long as our newspapers are crammed with such statements as that pain in the back or frequent micturition means kidney disease, that headache means brain disease, that pimples mean blood poisoning and that varicocele means lost manhood, so long, I say, as these malicious lies constitute the whole stock of information about health and disease received by the public, we need not fear that by spreading a little verifiable truth about disease and its cure we shall poison the public mind.

Equally groundless is the belief that by teaching the public the principles of therapeutics we shall lead them to try to do without the guidance of a physician. For with that evil also they are already tainted past all hope of escape. The $75,000,000 annually spent on "patent medicines" testifies to the truth of what I say. The public will have some ideas about health and disease anyway, and the less we do to spread true ideas the more absolute will be the sway of the false and pernicious legends which are now foisted on them. The people will doctor themselves anyway, many of them, and the blacker their ignorance of health and disease the more they will do it and the worse will be the result.

Professor Councilman, of the Harvard Medical School, said to me a few weeks ago: "The first business of a medical teacher is to teach the public—if we want to get rid of disease; his duty to the physicians and to the medical students is less vital, less immediate if the health of the community is what we seek." This is radical doctrine, but I believe it is the application of this doctrine that is doing most to make therapeutics really effective to-day.

### III. THE INCREASING PREVALENCE OF PHYSICAL THERAPEUTICS.

(a) Our hospitals are being rapidly remodeled in recognition of the fact that fresh air is a curative agent, not only for incipient tuberculosis, but in most ailments. Northrup's fresh-air cure for pneumonia will be followed, I venture to prophesy, by a like treatment for typhoid, septic wounds, erysipelas and the acute exanthamata.* I recently heard of an inflammatory eye affection in the child of a brother physician which was advancing with alarming rapidity despite all the measures used to combat it, until, as a last resort, the expedient was tried of putting the child's crib in a bay window surrounded by wide-open windows. An immediate and striking change for the better was noticed within twenty-four hours, and in the course of a few days the danger was over.

Here is, I believe, a new and most hopeful advance in therapeutics. In increasing numbers our surgical cases are being put out of doors, bed and all, very soon after the operation; hospitals are building cheap, open shacks in the country and transferring their patients there for convalescence as soon as possible. The therapeutic effectiveness of the hospital is thus increased, not only by the greater brevity and security of convalescence, but by the increase in the number of patients who can thus be admitted and treated in one set of beds within a given week or month. The beds are emptied so rapidly into the country convalescent home that they are ready for new patients much sooner than formerly.

(b) As a second example of the growth and prevalence of physical therapeutics, the proper use of air, water, food, massage, climate, heat, cold, pressure and the like, I mention the fact that the largest and most recent work on therapeutics known to me, Cohen's twelve-volume book, is devoted exclusively to physical and psychical therapeutics.

Do our patients take kindly to remedial means of this type? Do they actually prove effective? Can we secure the use of open windows in pneumonia, frequent baths in typhoid, of forced feeding in phthisis, of heat and local congestion in joint troubles? Yes, whenever we fulfill the second condition of the modern type of aggressive therapeutics, viz., become ourselves masters of the details of the treatment which we recommend or else turn it over to some one who is usually a nurse.

There is no use disguising from ourselves the fact that on the continent of Europe the wave of improvement in therapeutics, through the effective application of physical agents, has risen much higher than in this country. When we advise a patient to carry out at home the Nauheim treatment of heart disease, the passive hyperemic treatment of joint disease, the dietetic treatment of tuberculosis, we not infrequently lack that intimate and familiar knowledge of the finer details of the treatment, details on which its effectiveness largely depends. Furthermore, we are likely, I think, to continue, many of us, in the same ignorance of such details because we do not like them. *They bore us.* We had rather turn them over to some one else who is interested in them, but as yet we do not always do so.

### IV. PSYCHIC TREATMENT.

In what I earlier said of the aggressive treatment of tuberculosis I intimated that one of the factors in the increased effectiveness of the treatment was a realization of the psychic aspects of disease.

This increased awareness on our part of the psychic factors in all disease, organic as well as functional, is one of the most obvious features of the rebirth of therapeutics. A name is a wonderful thing. When we use words of Latin derivation and speak of "mind cure" or "mental healing" we are thought to be speaking of something very irregular and unorthodox, something that has crept on us like other forms of superstition and quackery, something to be repressed by the strong arm of the law whenever that assistance is available. But shift your wording, use a phrase of Greek derivation, "psychic

* Since this was written I have heard from Dr. Walter B. James, of New York, that he has already carried out a good deal of this treatment at the Presbyterian Hospital.

therapeutics," and straightway you are speaking of a legitimate field of medicine! I regard the publication and dissemination (in translation) of Professor Dubois' remarkable work on psychic therapeutics as marking an important epoch in medical history. Here we have for the first time scientific mind cure. Mind cure, first the stock in trade of charlatans, then of devoted but irrational women, has now begun to take its place as an important and, in many diseases, a central branch of therapeutics. Of course we have all of us used mind cure in our practice for years, but not in the systematic and thorough way in which the Swiss neurologist, Dubois, outlines and practices it.

Mind cure with Dubois is not hypnotism, a practice which is, I believe, being very generally abandoned the world over; it is not Christian science, with its perishable freight of overripe theology. *It is essentially the education of the patient.* Like all the best modern therapeutics, it seeks and utilizes to the full the cooperation of the patient himself. Everything is explained to him, no lies are told him. The potent influence of auto-suggestion, for good or for evil, is made clear to him. I recommend very earnestly the perusal of this book. The chapters on the psychic treatment of nervous diseases of the heart, the stomach and intestine, the brain, the sexual organs and the muscles exhibit a combination of powers rarely united hitherto in one author. He is scientific and thoroughly up to date in the details of physical and chemical diagnosis; he has with this the ingenuity and the intimate knowledge of human nature, its foibles, its failings and the sources of its power—a knowledge not often possessed by one so skilled in diagnosis. Besides this he has a big heart, a large charity and a confident optimism—the cause and the result of his abundantly successful career. The discipline and method of science, the art and skill in personal influence, ordinarily used only by the quack and for his base purposes, and the enthusiasm of a lover of mankind—these are qualities which Dubois unites in a remarkable and, so far as I know, unique way. His book is as interesting as a novel, full of instructive anecdotes and personal experiences, yet always systematic and never prolix. I have put it straight into the hands of several patients with good results to all. That nervous diseases are mental diseases, to be cured, if at all, by mental means, is the keynote of his work, and the mental means used are educational throughout. In this and in the recognition throughout of the absolute necessity of recognizing and, if possible, ameliorating the circumstances of the patient, domestic and economic, Dubois well typifies one phase of the rebirth of therapeutics.

### V. THE PLACE OF SOCIOLOGY IN THERAPEUTICS.

It is not accidental that we witness in the same year the publication of Dubois' book with its reinstatement of psychic treatment for the psychic element present in all disease, and the establishment at the Massachusetts General Hospital of sociologic work among its patients as a necessary part of thorough medical work. This marks the recognition of the fact that you can not treat a patient without knowing the circumstances, industrial, social, domestic, racial, in which his malady developed, and that you can adequately treat his malady if you recognize its human setting, the condition under which it grew up. A patient comes to me complaining of headache and general weakness. Physical examination is negative, his eyes are sound, he has no fever, but further inquiry shows that he has been lying awake night after night. Pushing the inquiries yet further, we find that it is worry that keeps him awake. To remove the cause of the disease being the first maxim in therapeutics, we are bound to find, if we can, what the cause of the worry is. This eludes us and we refer him for further sociologic investigation to another room, which the hospital has permitted me to organize and to put in charge of two expert and devoted women, for whose whole time we pay. This investigation reveals the fact that his income has of late been slightly less than his expenses and that, in spite of his best efforts, he can not as yet make the two ends meet. His insomnia and the resulting debility date from the time that this anxiety has been weighing him down; poverty is obviously the cause of his symptoms.

I believe it is coming to be recognized as a legitimate and indeed an essential part of therapeutics *to seek for the relief of any cause that is producing disease, no matter how far afield we have to go to reach that cause.* To be thorough is the first of our medical ideals. To treat symptoms without doing our level best to find and remove their cause is to be criminally negligent. The search for this may carry us far beyond what are ordinarily conceived to be the boundaries of medicine. We may have to investigate family affairs, industrial conditions, love affairs, school and college problems, all far enough from the practice of physical diagnosis and drug therapy. But how often this has happened before in the history of medicine! When the neurologist had to learn the laws and workings of electricity and the general practitioner had to become familiar with the use of the microscope they had to advance far beyond the boundaries of medicine, and I doubt whether in the beginning they realized the necessity. One after another of the sister sciences we medical men have had to invade and to some extent to master in order to make use of them in our work.

To chemistry, organic and inorganic, we now have to add some smattering of physical chemistry. To pathology we had to add bacteriology. The science of statistics and the knowledge of the diseases of animals are fields which we have found it impossible to keep out of. Now we have begun to annex psychology and sociology. *The necessity is the same that forced us to take up physics and chemistry—their laws are inextricably interwoven with the phenomena of disease.* To understand and to treat our patients we have to deal with all the causes that go to produce their maladies, so far as we can reach these causes. The recognition of social and psychical factors as causes of disease and the measurably successful effort to reach and to modify these causes is one of the most striking marks of the present rebirth of therapeutics.

### VI. THE PLACE OF WOMEN'S WORK IN THERAPEUTICS.

No one can fail to be impressed if he observes the steady increase in the amount of therapeutics now recognized to be best carried out by women. It has long been true that in the division of labor between doctor and nurse the doctor has made the diagnosis and prescribed the treatment, the nurse or the house-mother has carried out the treatment. It has also been long recognized that male nurses are seldom a success. There is in women a strong natural taste and aptitude for the very work of detailed therapeutics which we call nursing, an aptitude very conspicuous by its absence in most men. All this is familiar and trite.

Within ten years we have witnessed a very interesting development in the functions of the nurse. We have now not only the nurses trained for massage and for physical therapeutics of other physical types, but the Nauheim bath nurses, the tuberculosis nurses, the school nurses,

the nurse who teaches and directs infant-feeding. As fast as any branch of physical therapeutics is worked out to any degree of perfection we find it an economy of time and labor to hand it over to those naturally fitted to carry out its details with the patience, tact and deftness that come from natural interest and aptitude.

In the newer psychic and sociologic fields which medicine has begun to invade I have no doubt that women will find a large field of usefulness. Social work and psychic therapy as they are practiced independent of medicine are now overwhelmingly in the hands of women, and I see no reason for shifting these forms of therapeutics into other hands when they come to be more fully recognized and assimilated by medical practice. The effective application of all therapeutics (if you except surgery) is women's work.

### VII. ACCOMPANYING DEATHS.

Every birth involves death. The success of the new brings always the rejection of that which once was new, but which now has outlived its usefulness.

The changes which I have described mark the beginning of the end of many evils. I mention two: (*a*) The false mystery that has often encompassed the doctor; (*b*) the conception of drugs as the *alpha* and *omega* of therapeutics. Drugs will always hold an important place in medicine, but they will never hold the unquestioned sway which they commanded before the rise of physical therapeutics, of the aggressive public campaigns now being waged against disease, of psychic therapeutics and the full utilization of women. Drug therapeutics in cases in which drugs do no good represent either mental fatigue or mental myopia on the part of the physician: sometimes mental fatigue because the easiest thing that one can do for a patient when tired is to write a prescription; sometimes mental myopia which prevents the physician from seeing that the habit of giving placebos and of prescribing a medicine for every symptom leads straight to the "patent-medicine" habit.

Why do people take "patent medicines" and expect us to give them a drug for every symptom? They were not born with a desire for nauseous mixtures. They acquired it under instruction, ultimately our instruction. From the patient's point of view the net result of the doctor's expensive visits is too often a row of medicine bottles on the shelf. The thrifty patient thereupon thinks he sees a way to get the net result of the doctor's efforts without so much expense. Why not save the middle man, he says to himself, and get the goods direct? So arises the habit of going to apothecaries or to the "patent-medicine" vendors for a cure. When we stop giving placebos, cease acting as middle men for drugmakers and admit to their rightful place the non-medicinal branches of therapeutics we shall deal a powerful blow at the "patent-medicine" evil.

### SUMMARY AND CONCLUSIONS.

1. Therapeutics has become, within the past few years, very noticeably more effective.

2. This increased effectiveness is the result of (*a*) the aggressive spirit as exemplified by the work of the New York Board of Health in school hygiene and school inspection and by the tuberculosis work now being carried on in Boston; (*b*) the greater part now being taken by the laity in medicinal work, both by intelligent co-operation and by financial support; (*c*) our greater acquaintance with physical therapeutics, especially with the details on which their successful application depends; (*d*) the rise of scientific mind cure and of social work, marking a recognition of the psychical and of the social elements in all disease; (*e*) a wider utilization of the unique talents of women in the field of therapeutics.

3. With the rise of the type of therapeutics here described we are now witnessing a limitation of the sphere both of surgical therapeutics and of drug therapeutics. The latter limitation will do much to undermine the superstitions on which the "patent-medicine" habit rests.

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## THE CAUSE OF THE HEART BEAT.*

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### HISTORICAL REVIEW.

*The Seventeenth Century: Harvey and Willis.*—It is known to all students of the history of medicine that what may be designated in general as the modern point of view regarding the cause of the heart beat dates from the work of William Harvey. Before his time physicians thought along the lines laid down by the ancient masters, in that they conceived the expansion of the heart in diastole to be an active, or rather the active phenomenon of the heart beat. This expansion was attributed to the innate or implanted heat, to the vital spirits, to the pulsatile force, etc. That the diastole of the heart is an active rather than a passive expansion has been held in a sense by many prominent physiologists, even in the nineteenth century. Magendie, for example, states that at first he entertained this belief. Nevertheless it remains true that Harvey's experiments and observations demonstrated that the pulse of the heart and the arteries is due to a contraction of the musculature of the heart during systole, whereby blood is driven forcibly into the arteries. "The motion of the heart consists in a certain universal tension, both contraction in the line of its fibers and constriction in every sense."[1] This conception of the heart as a muscular force pump, driving out its contents during its active contraction, instead of drawing blood and pneuma into itself by a spontaneous dilatation was, as Dalton says, the first important step in the development of the doctrine of the circulation. Certainly as regards the nature of the heart beat it makes the great dividing line between ancient and modern speculations.

We may regard Harvey also as the founder of the myogenic theory of the heart beat. For although Galen taught that the pulsations of the heart are dependent on an inherent force, which acts through the contractions of the peculiar tissue composing the heart, yet his conceptions of the nature of the heart beat were so different from ours that his ideas are scarcely applicable to the problem as it presents itself to us. Harvey interpreted the systole and the diastole as a contraction and relaxation respectively of the musculature, and, although he did not speculate as to the cause or nature of the contraction, he seems to have considered it an inherent property of the heart muscle itself. Later writers attempted a further analysis of the phenomenon, and in one form or another hypotheses arose, which attributed the initial cause of the heart beat to the activity of the nervous system. Willis[2] taught that the nerves supplying the heart, stomach, intestines, etc.,

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* Lecture in the Harvey Society Course, delivered at the New York Academy of Medicine, March 17, 1906.

1. Harvey: "The Motion of the Heart and Blood in Animals," Willis' translation, revised and edited by Alexander Bowle, London, 1889.

2. Willis, Thomas: "Opera Omnia," Amsterdam, 1682. (Budge.)

arise from the cerebellum, and that, therefore, this organ engenders the animal spirits through which the involuntary movements of the heart are effected. This view found many advocates, but it disappeared in the course of time, after it was shown that the nerves in question do not originate in the medulla, and that so far as the heart is concerned, the beats continue even when the organ is excised. Borelli[3] devised an ingenious hypothesis by means of which he reconciled the last mentioned fact with the view of a nervous control of the heart beat. He assumed that the contractions of the heart depend on an influence derived through the nerves. The liquid, succus spirituosus, conveyed by the nerves, escapes slowly into the heart and sets up there an ebullition, which is the immediate cause of the contraction, or according to his view, the expansion of systole. Since in the excised heart some of this liquid is still contained in the stumps of the adherent nerve fibers, it is evident that the pulsations of the organ may continue for a time after removal from the body.

*The Eighteenth Century.*—Evidently the century following Harvey's immortal discovery did not add anything of material importance to our understanding of the cause of the heart beat. But the tendency manifested during this period to attribute the initiation of this phenomenon to some direct influence of the nervous system was of value indirectly, in that it led to continual discussion and to some experimental work. Haller devoted much attention to the problem and he succeeded apparently in disproving the neurogenic views in the form in which they had been proposed at that time. In place of them he formulated a clear-cut myogenic hypothesis which served to mark the beginning of a new discussion lasting until the present day. He insisted on the fundamental facts that the heart continues to beat after section of the nerves going to it and even when "torn out of the breast." The musculature of the heart, he says, possesses an inherent irritability or power of contraction, which is independent of the influence of the extrinsic nerves; a view, which to his mind, was demonstrated by the fact that a quiescent heart may be excited to movement by "heat, vapor, cold, poison, current of air, watery liquids, wax, blood, or an electric spark."[4] According to his theory, therefore, the cause of the heart beat lies in the inherent irritability of its musculature, and under normal conditions this property is aroused to action by the stimulating influence of the blood as it flows into the ventricles from the veins and auricles. "By this blood copious, warm and heavy, the sensible flesh of the heart is irritated and excited to contraction." For a time Haller's views met with general acceptance, but some of his contemporaries remained unconvinced. Senac,[5] for example, while admitting that the heart is essentially independent of the central nervous system and is aroused to action by the stimulating effect of the blood, conceived that this stimulus acts on the nerves in the heart, rather than on the musculature directly.

*The Nineteenth Century.*—About the commencement of the nineteenth century physiology began to assume definitely the characteristics of an experimental science. The greatest masters had, indeed, always made use of experiments in their inquiries, but their disciples, on the contrary, were more keen in the matter of argument and exposition than in devising new investigations. The dawn of a new day for our science was slowly breaking at the close of the eighteenth century. Henceforward, experimental work became more widespread and physiologists adopted promptly all the available methods and appliances that were developing in the sister sciences of chemistry and physics. So far as our subject is concerned, one of the first evidences of the awakening of this experimental spirit is to be found in the numerous attempts to determine directly, whether or not the beat of the heart is influenced by the cardiac nerves. These nerves were stimulated or severed and the effects on the heart beat were observed. Senac, Bichat, Fontana, Treviranus and others reported negative results from the stimulation of the cardiac nerves, while von Humboldt, Burdach, and later Longet and Valentin stated that an increase in the heart beat was obtained.

Many of us may wonder why these capable observers failed to discover the inhibitory action of the vagus nerve on the heart beat, that phenomenon which we now obtain with such ease and certainty that it constitutes one of our usual and always successful class demonstrations. The explanation is, I believe, very evident. These men possessed only crude and inefficient methods of stimulation, such as mechanical compression or section, the action of chemical agents, the electric spark of the Leyden jar or of the statical machine, or the continuous current of the voltaic pile. If we were compelled to resort to the same appliances now it would be difficult or impossible for us to demonstrate with certainty such an effect as the inhibition of the heart by stimulation of the vagus nerve.

In this, as in many other respects, experimental investigations in physiology were immensely aided by the discovery of the induction current, and the construction of instruments capable of giving a rapid series of induction shocks. Magnetic induction currents were first obtained by Faraday, in 1832, and shortly afterward he succeeded in developing similar effects from the current of the galvanic battery, that is, in producing what he called voltaic induction. Both of these discoveries were quickly applied to the uses of physiology. With the aid of a magneto-electric rotator, the brothers Weber,[6] in 1845 and Budge,[7] perhaps independently, in 1846, succeeded in demonstrating the inhibitory action of the vagus nerve on the heart. One of the three talented Weber brothers, Wilhelm Weber, was a distinguished physicist, and it is stated that in 1838 he devised a form of magnetic rotator which was capable of giving a series of induction shocks. Possibly it was through his influence that his brothers, Ernst Heinrich and Eduard Friederich were led to use this apparatus in their investigations on the vagus nerve.[8] This fundamental discovery not only opened a new field to physiologic thought and investigation, but it also disposed finally of the erroneous view that the vagus nerve serves as a motor channel through which the central nervous system controls and originates the beat of the heart.

The general view that the beat of the heart is directly dependent on the central nervous system had meanwhile taken another form. On the basis of excellent experimental work Legallois[9] concluded that destruction of the spinal cord is followed by a failure in the

3. Borelli: "De Motu Animalium," 1743.
4. Haller: "Elementa Physiologiæ Corporis Humani," vol. i, 1757; also First Lines of Physiology. (Cullen.)
5. Senac: "Traité de la Structure du Cœur," etc., 1774. (Budge.)
6. Weber: Wagner's Handwörterbuch d. Physiol., vol. iii, No. 2, p. 31. See also Volkmann, *ibid.*
7. Budge: Müller's Archiv., 1846, p. 295.
8. According to Schiff, the credit of first observing that stimulation of the vagus nerve arrests the heart-beat belongs to Galvani. I have not been able to verify the reference.
9. Legallois: "Expériences sur le principe de la vie," 1812.

power of the heart to maintain its contractions; and, indeed, in animals not too young, this result was obtained when any given region of the cord, cervical, dorsal or lumbar, was alone destroyed. We know now that such operations may be performed, with the aid of our better technic, without causing the death of the animal, and it is probable that the fatal results obtained by Legallois were due directly to vasomotor paralysis. He was convinced that his experiments proved that the stimulus or principle which maintains the beat of the heart is derived from the spinal cord in all of its parts, and is conveyed to the heart through the branches of the sympathetic system.

Legallois's experiments and conclusions were passed on and endorsed by a special commission, consisting of von Humboldt, Hallé and Percy, appointed by the French Academy; but the dictum of a commission, fortunately, is not accepted as final in science. The work of Philip and of Clift in England; of Flourens and Brachet, in France and of Bidder, in Germany, soon made Legallois's conclusions doubtful, or altogether improbable.

Throughout this period, during which efforts were made to show that the heart beat is controlled directly from the central nervous system, most physiologists were saved from the intricacies and perplexities of obscure and doubtful interpretations by holding fast to the simple, incontestable fact that the heart continues to beat after removal from the body. This fact says Volkmann[10] proves absolutely that the force causing the heart beat does not arise in the brain or cord. The development of modern physiology has served to demonstrate the correctness of Volkmann's reasoning. By the methods of isolating the heart, first used in this country by Newell-Martin and subsequently modified and improved by Porter, Langendorff, Locke, Hering and others, we are now able to keep the hearts of mammals, including man, beating for hours or days, after all connections with the central nervous system are severed.

That form of the neurogenic theory which made the heart's beat dependent on the central nervous system was finally disposed of when the true functions of the extrinsic nerves to the heart were demonstrated. Physiologists were perhaps more willing to let it depart forever, because, at this period, an entirely different kind of neurogenic hypothesis was meeting with great favor on all sides. According to this newer view, the cause of the heart beat lies in the automatic activity of the sympathetic ganglia, present in the heart itself. In this form the neurogenic hypothesis quickly and completely replaced the myogenic theories as proposed by Haller, the pendulum of physiologic belief taking a strong and a long swing to the nervous side. This particular form of the neurogenic theory seems to have originated in the work of Bichat.[11] In the grand and comprehensive system devised by this remarkable man, the processes of the animal body are divided into the animal and the organic. Over the latter, including the beat of the heart, the central nervous system has no control; they are under the influence of the sympathetic or ganglionic system. The sympathetic nerve in fact was assumed, in accordance with the old idea of Winslow, to consist of a number of small independent systems for each of which a ganglion served as a center or brain. No direct evidence was furnished then, nor has it been furnished since, that such ganglia control the movements of the heart, but the theory offered a plausible hypothesis, and, in the minds of most physiologists, the hypothesis was almost definitely proved when, in 1844, Remak[12] described nerve ganglia within the substance of the heart. From our modern standpoint it is difficult to understand why this anatomical fact should have carried so much weight.

If the isolated heart continues to beat it is surely just as logical to assume that the cause of the beat lies in the properties of the musculature, as in those of the intrinsic nerves. Yet for a long period of years physiologists were practically unanimous in giving the latter interpretation. The consideration that had most weight with them beyond doubt, was the orderly co-ordinated character of the heart beat. The co-ordination of different muscles to give an orderly sequence of contractions is usually under the control of the nervous system, as is shown in voluntary or reflex movements and in the rhythmic play of the respiratory muscles. In the heart beat a similar sequence is presented. The contractions of the veins, auricles and ventricles follow in a definite order, and whether stimulated naturally or artifically the musculature of each chamber contracts in a co-ordinated fashion. For the control of such a complex and yet orderly movement it was natural, reasoning from analogy, to assume that nerve centers are required. Practically all physiologists abandoned the myogenic hypothesis of Haller and accepted the neurogenic theory as formulated by Volkmann.[13] For a period of 40 years this view was taught almost exclusively in the text-books and was accepted in all the discussions of the current literature. Investigation in fact, was directed largely toward discovering the finer anatomy of the intrinsic nervous mechanism and speculating on the specific rôles played by the different ganglia.

In the frog's heart, which formed the classical object of research, two distinct nerve centers were described, one, the ganglion of Remak, situated at the junction of the sinus venosus and auricles, the other the ganglion of Bidder, lying at the level of the auriculoventricular ring. Numerous experiments were made to determine the difference in function, if any, between these two centers. While the original view had assumed simply that the intrinsic ganglia function as motor centers, discharging impulses in regular sequence into the different chambers, numerous corollaries or amendments to this hypothesis soon appeared. For a time the polydynamic theory, as it was designated, obtained increasing acceptance. It was recognized that the beat of the heart begins normally at the venous end and thence spreads in orderly sequence to auricles and ventricles; hence it was concluded that the ganglion of Remak in the sinus constitutes the original or chief motor center in which the first impulses arise automatically. But it was known also that parts of the heart, separated from this ganglion by section or ligature, may also beat rhythmically and respond to artificial stimulation by co-ordinated contractions; hence it became necessary to regard other nerve cells in the heart as subordinate motor centers. Bidder[14] and others believed that the ganglia discovered by him at the junction of auricle and ventricle function as reflex motor centers. So also the inhibitory action of the vagus nerve led naturally to the supposition that an inhibitory center exists in the heart; while numerous pharmacologic studies suggested

10. Volkmann: Müller's Archiv., 1844.
11. Bichat: "Réchérches physiol. sur la vie et la mort," 1800.
12. Remak: Müller's Archiv., 1844.
13. Volkmann: *Ibid*; also Wagner's Handwörterbuch d. Physiol., vol. II.
14. Bidder: Müller's Archiv., 1852.

still more elaborate views in order to explain the differences in action of various drugs. Schmiedeberg[15] (1870) assumed the existence not only of motor and inhibitory centers, but also of an intermediate apparatus of some sort placed on the course of the vagus fibers before they reach the inhibitory center. Perhaps the latest effort of this kind to differentiate between the functions of the intrinsic ganglia is found in the papers of Kaiser[16] (1893-4) who describes an automatic or excitomotor center at the venous end of the heart, certain subordinate motor centers in auricles and ventricles and an inhibitory center in the auriculoventricular region. The last named center is stimulated reflexly by the systole of the ventricle, and then sends inhibitory impulses to the subordinate motor centers, whereby these latter are inhibited, and diastolic expansion is produced in the ventricle.

From the time of Volkmann to that of Kaiser the neurogenic hypothesis has been given many specific forms by Joh. Müller, Kürschner, Budge, Schiff, Goltz and others, but in recent years the interest in this matter of subdividing the functions of the various ganglia has obviously subsided. It is recognized that the whole neurogenic theory is again under discussion, and that it is more important at present to decide the fundamental question, whether the nerve cells have anything to do at all with the cause of the heart beat. The neurogenic view held to-day by many physiologists probably asserts no more than was stated by Munk in 1881, namely, that the automatic ganglion in the sinus (in the frog's heart) is the *primum movens* of the heart's activity, and that the excitations proceeding from it through the septal nerves stimulate the auricle, and indirectly the ventricle through the activity of the non-automatic ventricular ganglia. The strict neurogenists must hold in addition that all the ganglion cells (or the elements of the nerve network) in the heart are capable of independent automatic or reflex activity, since isolated bits of the heart under proper conditions give rhythmic pulsations. Friedländer asserts that very minute fragments of the heart, not larger than 0.2 mm., when taken from the sinus, auricle or upper third of the ventricle, continue to beat as long as 48 hours, if kept in a proper serum.[17] The proofs furnished for this neurogenic theory were not really conclusive, and it is, therefore, natural to find that after a certain period of triumph, some investigators began to scrutinize the facts in a skeptical way.

Engelmann, influenced by his experiments on the rhythmic contractions of the ureters, which are devoid of nervous elements, suggested in 1869 that possibly the heart beats have a muscular origin. But the modern renaissance of the myogenic theory dates from the work of Gaskell,[18] from 1881 to 1883. He began his well-known experiments on the rhythmic activity of the heart in frogs and terrapins while still a believer in the neurogenic theory, but the facts that he discovered convinced him that the heart muscle itself possesses the property of automatic rhythmicity, and that this property is most highly developed in the tissue at the venous end of the heart. He proposed, therefore, a theory which, like that of Haller, assumes an independent irritability and rhythmicity in the heart muscle, but which differs from Haller's in that it does not attempt to account for the cause of the contractions.

Gaskell's beautiful experiments led him to believe that the systole of the heart begins at the venous end (sinus venosus), because the property of rhythmicity is most highly developed in this region. Thence the contraction spreads as a peristaltic wave over the rest of the heart, its rate of conduction being rapid in the expanded and modified portions of the original tube which constitute the auricles and ventricle, and less rapid in the more primitive tissue that forms the auriculoventricular ring. The slower velocity at this latter point occasions the apparent pause between the auricular and ventricular systoles. As for the nerve cells found so plentifully in the heart, he considers them merely as peripheral sympathetic cells in which the preganglionic fibers of the vagus end before being distributed to the cardiac muscle. They constitute, therefore, merely a portion of the inhibitory mechanism, and are in no way connected with the causation of the heart beat.

Gaskell's point of view was supported by Engelmann in numerous excellent researches, and from that time the myogenic theory has won many adherents among the physiologists of all countries. The controversy still furnishes material to the current literature, and the fact that this difference of opinion exists at present is in itself evidence that no absolutely conclusive proof has been furnished by either side.

Some of the many arguments advanced by one party or the other have failed to stand the test of subsequent investigations, and have, therefore, dropped out of the case as it presents itself to us to-day, but the actual condition of the question may be understood most clearly by reviewing briefly those facts and deductions which are still used most frequently by the adherents of the two views.

### FACTORS IN THE PROBLEM.

*Automaticity of the Various Parts of the Cardiac Musculature.*—Is it true that all parts of the heart possess the property of giving automatic rhythmic contractions? We know that under normal conditions the beat of the heart begins in the great veins. The contractions of the remaining portions are due to impulses or excitations received from the venous end, either by way of the musculature or the nerves. Under normal conditions, therefore, only the venous end contracts automatically; the remainder of the musculature is stimulated to beat When, therefore, we consider the automaticity of the heart beat as a whole, it is obvious that it depends for its initiation on the properties of that small portion of the musculature which forms the mouths of the great veins. The question arises whether the rest of the muscle of the heart possesses similar properties. Can any portion of it continue to beat rhythmically if its connections with the venous end are severed? The evidence that has accumulated within the last quarter of a century seems to me to be entirely conclusive on this point. It shows beyond question, so far as the vertebrate heart is concerned, that every portion possesses, in some degree or other, the property of giving automatic rhythmic beats provided the proper conditions are maintained. If the apex of the frog's heart is separated from the rest of the organ it refuses to beat in spite of being supplied with normal blood. But if it is put under a certain tension, or if certain substances are added to the circulating blood, it will give rhythmic contractions.

15. Schmeldeberg and Koppe: Berichte d. königl. sächs. Gesells. d. Wiss., 1870.

16. Kaiser: Zeits. f. Biol., 1893, p. 203; *ibid.*, 1894, p. 279.

17. Friedländer: von Bezold's Untersuchungen a. d. physiol. Lab. in Würzburg, 1867.

18. Gaskell: Jour. of Physiol., 1883, vol. iv, p. 43.

When the terrapin's ventricle is cut off from the rest of the heart it remains quiet as a rule, so long as normal blood circulates through it, but a slight change in the inorganic salts of the circulating liquid, such as the removal of the potassium compounds, causes it to begin a series of beats. So, also, strips taken from various parts of the heart may be made to beat rhythmically for long periods by immersing them in special solutions. While it is true, therefore, that certain parts of the heart in some animals are incapable of beating automatically under perfectly normal conditions, that is, when supplied with the animal's own blood, it is evident that such portions of the heart have a latent property of automatic rhythmicity which may be aroused into activity when the proper conditions are provided. The beats under such conditions are of the same order of phenomenon as those normally exhibited by the venous end of the heart. If, therefore, we could find any portion of the heart entirely devoid of nervous tissue and could so modify its conditions as to cause it to give beats of the usual cardiac type, we should be in possession of a fact that would be nearly conclusive proof of the myogenic origin of the heart beats. Very numerous efforts have been made to furnish a crucial experiment of this sort.

*Rhythmic Contractions in the Absence of Nerves.*—The following instances of rhythmic contractions in muscular tissues devoid of nerves have been cited. The ureters (Engelmann); the veins in the bat's wings (Wharton Jones); the veins in the rabbit's ear (Schiff); certain portions of the veins opening into the frog's heart (Engelmann); the apex and also the bulbus arteriosus (Engelmann) of the frog's heart; strips from the apical portion of the terrapin's ventricle (Gaskell); the hearts of many invertebrates (Foster, Biedermann, *et al.*); the heart of the young embryo (Wagner, His). Most of these instances carry but little weight, as proof of the myogenic theory, at the present time. In regard to the ureters, or the veins in the wing or ear, it may be urged that they prove nothing concerning the heart, even if the absence of nerve tissues were demonstrated beyond doubt. So also regarding the apex or bulbus arteriosus of the frog's heart, or the hearts of invertebrates, the results of histologic work in recent years have tended to make untenable the old belief that these tissues are devoid of nerve cells.[19]

The old observation that the fetal heart begins to beat before it possesses nervous elements is the only one of the facts of this kind which remains unchallenged. Its correctness seems to have been clearly demonstrated in recent years by the careful work of W. His, Jr.[20] Engelmann has cited this fact as the best single proof of the truth of the myogenic theory. Objections, however, have been raised to its conclusiveness. It has been urged that the fact that the beat of the embryonic heart is myogenic in origin is in itself no proof that the older heart, with its intrinsic nervous mechanism, continues to function in the same way. It may be that after the migration of the nerve cells into the heart they assume, as the more automatic tissue of the two, the function of initiating the beat. This mode of reasoning appeals to some physiologists. On the other hand it is pointed out that the negative evidence regarding the presence of nerve elements in the early embryonic heart may disappear, as has happened to such evidence in other cases, when better histologic methods are devised. An improved technic may show the presence of nerve elements in the embryonic tissue, or demonstrate the existence of conducting paths between it and outlying nerve cells. The case at present gives strong support to the myogenic theory, but it has not sufficed to remove the objections of the other side.

*Hearts Known to Be Controlled by Nerve Cells.*—Among the great variety of hearts studied by physiologists some have been discovered in which the beat is obviously dependent on the presence and properties of nerve cells. These cases merit especial consideration. It is believed by some that the lymph hearts in the frog furnish an example of this kind. Destruction of the spinal cord is followed by a cessation of the beat, and light doses of curare have a similar effect; both facts indicating that the musculature is normally stimulated by impulses received from extrinsic nerve fibers. The case, however, is not a clear one, since according to some observers the hearts may begin to beat again after removal of the spinal cord, and moreover it is at most an instance of a heart controlled directly from the central nervous system and not by the action of peripheral ganglia. A similar case is presented by the caudal hearts of the hag fish. Greene has shown[21] that the beat of these peculiar structures is dependent on the action of a nerve center in the spinal cord. Destruction of this center brings the heart to a standstill.

The contractile apparatus in this case is not a true heart in structure; it is composed, rather, of two specialized striated muscles, belonging to the somatic type, which are so arranged as to compress and dilate two membranous sacs. As Greene says, the whole mechanism is strictly comparable to that of the respiratory muscles in mammals. It furnishes no more support to the neurogenic theory than is already found in the existence of the rhythmic contractions of the diaphragm under the influence of the automatic respiratory center in the medulla.

Recently, Carlson[22] has made the interesting discovery that the heart of the limulus depends for its rhythmic beat on the activity of nerve cells. In this animal the large median nerve stretching along the dorsal surface of the heart contains numerous ganglion cells. When this nerve cord is excised the heart ceases to beat, although still irritable to artificial stimulation. Carlson's work seems to show conclusively that not only the automatic beat of this heart, but the conduction also of the wave of contraction is entirely dependent on the action of the nerve cells in the median nerve cord. We have here, therefore, an instance in which the automatic contractions and the co-ordination of a genuine blood heart are undoubtedly of neurogenic origin. The question arises whether we are justified in applying this result, obtained on an invertebrate heart, to the hearts of the vertebrate animals.

One consideration which presents itself in this connection tends to make an impartial observer doubt whether such a wide induction is permissible. The cardiac muscle in the vertebrate heart possesses certain peculiar properties which serve to distinguish it from the usual skeletal muscle. The most characteristic and fundamental of these properties is a long refractory period. That is to say, when cardiac muscle contracts spontaneously, or in consequence of an artificial stimu-

19. For discussion and literature see Carlson: Pflüger's Archiv., 1905, vol. cix, p. 51.

20. His, W. Jr.: Abhandlgn. d. math. phys. Klasse d. königl. sächs. Gesells. d. Wiss., 1891, vol. xviii: also Krehl and Romberg: Archiv. f. exp. Pathol. u. Pharm., 1892, vol. xxx, p. 71.

21. Greene: Amer. Jour. of Physiol., 1900, vol. iii, p. 360.

22. Carlson: Amer. Jour. of Physiol., 1904, vol. xii, p. 67; *ibid.*, 1905, vol. xii, p. 471.

lus, it is entirely unirritable to further stimulation during the whole of its time of shortening. This reaction is shown by the musculature in all parts of the vertebrate heart, and most physiologists regard it as a property which lies at the basis of the phenomenon of rhythmicity. Now the musculature of the heart of the limulus, of the closely related heart of the lobster, and of the hearts of other invertebrates, does not possess this characteristic property.[23] It is, therefore, to all appearances, a kind of muscle different from the cardiac muscle of the vertebrates, and resembles rather skeletal or voluntary muscle. Like this latter form of muscle it does not possess the property of automatic rhythmicity, but receives its stimulating impulses from the nervous system. Unless it can be shown that the refractory period is not a characteristic and distinguishing property of cardiac muscle as it exists in the higher vertebrates, this discovery that the heart beat of the limulus has a neurogenic origin fails to have a direct bearing on the problem that we are considering, namely, the myogenic or neurogenic nature of the heart beat in vertebrate animals.

An effort to show this very thing has been made within the last few months in a paper published by Rohde.[24] The author states that when a frog's heart is dosed with chloral the muscle loses all of its characteristic properties and resembles ordinary skeletal muscle. By paralyzing completely the intrinsic nervous system the chloral gives us a chance to study the heart muscle itself, and according to this paper the muscle under these conditions turns out to be like that of the heart of the limulus or other invertebrates. From this point of view, therefore, what we have called the characteristic properties of heart muscle, the refractory period for example, are really properties of the intrinsic nervous apparatus. It is evident at once to a physiologist that a conclusion of this sort lands us in a difficulty of interpretation to which the author has paid no attention. One may ask such a question as this: If the refractory period is a property of the intrinsic nerves, and if nevertheless the heart muscle is independently irritable to artificial stimulation, how does it happen that an electrical stimulus applied directly to the muscle of the normally beating heart during the phase of systole fails to provoke a contraction? A seemingly unanswerable question of this kind would not, of course, invalidate actual experimental results, and in view of the importance of the far-reaching conclusions of the author his experiments have been repeated in my laboratory by Mr. Schultz.

The results of this work will be published shortly, but I may say that they show conclusively that Rohde was in error in saying that chloral effaces all of the characteristic properties of heart muscle. It modifies in an interesting way the response of this muscle to repeated stimulation, especially in the matter of its tone contractions,[25] but the striking peculiarity of the heart muscle, namely, the refractory period, is still retained. It is difficult to understand how Rohde could have reached a different conclusion, unless indeed he was misled by an inaccurate method of registration. The objection that I have made to the general application of Carlson's results on the heart of the limulus retains, therefore, its full significance and prevents us from accepting this work as giving a final solution to the problem. Some further facts which tend to support the myogenic view may now be considered.

*The Reversal of the Beat.*—Under various conditions the beat of the heart may be reversed, that is, the wave of contraction may begin in the ventricles, proceed thence to the auricles, and finally to the sinus venosus. As Gaskell, Engelmann and others have pointed out, this reversal, while easily understood on the myogenic theory, is opposed to the usual form of the neurogenic hypothesis. A nervous mechanism, consisting of a principal motor center in the region of the sinus and subordinate motor centers in auricle and ventricle, can not, according to our experience with such mechanisms in other parts of the body, work in both directions; a system of connecting neurons is a mechanism that conducts and co-ordinates only in one direction.

To account for this phenomenon the neurogenists are obliged to assume that the nervous apparatus in the heart forms a peculiar interconnecting network, the like of which is not found in the other automatic nervous mechanisms of the body, not even in those of the intestines. For when any portion of the intestine in a condition of rest is stimulated at a given point the wave of contraction or of contraction and inhibition proceeds onward in normal fashion; the movement is a peristalsis and not an antiperistalsis. In the heart, on the contrary, when at rest, any adequate stimulus applied to the ventricles will set up a reversed rhythm. The necessity forced on the neurogenists to make a new and unproved assumption to meet this case, does not, of course, strengthen their side of the argument. So, too, the well known zigzag experiment by Engelmann fits well into the myogenic theory, but is difficult of explanation in terms of the neurogenic hypothesis without recourse to the unknown properties of a nerve network. In this experiment it was shown that when a ventricle is so cut as to form an irregular piece, with intervening narrow bridges, a stimulus applied at either end arouses a wave of contraction that spreads in orderly sequence over the whole piece. *(To be continued.)*

23. Carlson: Amer. Jour. of Physiol., 1905, vol. xii, p. 492; also Hunt, Bookman and Tierney: Centbl. f. Physiol., 1897, vol. xi, p. 274.

24. Rohde: Archiv. f. exper. Path. u. Pharm., 1905, vol. liv, p. 104.

25. In this connection see Porter: Amer. Jour. of Physiol., 1905, vol. xv, p. 1.

## CEREBROSPINAL MENINGITIS IN NEW YORK CITY DURING 1904 AND 1905.*

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During the past forty years there have been four outbreaks of epidemic cerebrospinal meningitis in New York City. The first and, up to that of 1904 and 1905, the most severe epidemic was in 1872, when there were 782 deaths—a death rate of 8.70 per 10,000. In 1881 and 1893 the outbreaks were not so severe; the number of deaths were, respectively, 461 and 469, and the death rates 3.70 and 2.67. The latest epidemic, the severest in the history of the city, began in the early months of 1904 and continued through 1905. During 1904 there were 1,083 deaths and a death rate of 4.6; during 1905, 1,511 deaths and a death rate of 6.3.

The winters of 1872, 1881, 1893 and 1904 were what are known as "hard winters;" being cold, with considerable snow. The disease has always been abnormally prevalent for a year or two after each outbreak, but hitherto the number of cases during the second year was considerably less. In 1905, however, the epidemic was much more severe in the second than in the first year.

* A report to the commission appointed by the Department of Health, City of New York, for the investigation of cerebrospinal meningitis.

The number of deaths and death rate from cerebrospinal meningitis in the old city of New York (Boroughs of Manhattan and the Bronx) from 1866 to 1905 are shown in Table 1.

TABLE 1.—DEATHS FROM CEREBROSPINAL MENINGITIS, IN THE OLD CITY OF NEW YORK (MANHATTAN AND THE BRONX), WITH POPULATIONS AND DEATH RATES PER 10,000.

| Year. | Population. | Number of Deaths. | Death Rate. | Year. | Population. | Number of Deaths. | Death Rate. |
|---|---|---|---|---|---|---|---|
| 1866 | 767,979 | 18 | .23 | 1887 | 1,479,143 | 203 | 1.37 |
| 1867 | 808,489 | 33 | .40 | 1888 | 1,522,341 | 173 | 1.14 |
| 1868 | 851,137 | 34 | .39 | 1889 | 1,566,801 | 145 | .93 |
| 1869 | 896,034 | 42 | .47 | 1890 | 1,612,559 | 136 | .84 |
| 1870 | 943,300 | 32 | .34 | 1891 | 1,659,654 | 189 | 1.14 |
| 1871 | 955,921 | 48 | .50 | 1892 | 1,708,124 | 230 | 1.35 |
| 1872 | 968,710 | 782 | 8.07 | 1893 | 1,758,010 | 469 | 2.67 |
| 1873 | 981,671 | 290 | 2.95 | 1894 | 1,809,353 | 213 | 1.18 |
| 1874 | 1,030,607 | 158 | 1.53 | 1895 | 1,873,201 | 204 | 1.09 |
| 1875 | 1,044,396 | 146 | 1.40 | 1896 | 1,906,139 | 178 | .93 |
| 1876 | 1,075,532 | 127 | 1.18 | 1897 | 1,940,553 | 232 | 1.20 |
| 1877 | 1,107,597 | 116 | 1.05 | 1898 | 1,976,572 | 258 | 1.31 |
| 1878 | 1,140,617 | 97 | .85 | 1899 | 2,014,330 | 287 | 1.42 |
| 1879 | 1,174,621 | 108 | .92 | 1900 | 2,055,714 | 201 | .97 |
| 1880 | 1,209,196 | 170 | 1.41 | 1901 | 2,188,209 | 201 | .94 |
| 1881 | 1,244,511 | 461 | 3.70 | 1902 | 2,182,836 | 190 | .87 |
| 1882 | 1,280,857 | 238 | 1.86 | 1903 | 2,249,680 | 195 | .86 |
| 1883 | 1,318,264 | 223 | 1.69 | 1904 | 2,318,831 | 1,083 | 4.6 |
| 1884 | 1,356,764 | 210 | 1.55 | 1905 | 2,390,382 | 1,511 | 6.3 |
| 1885 | 1,396,388 | 202 | 1.45 | 1906 | ..... | .... | ... |
| 1886 | 1,437,170 | 223 | 1.55 | 1907 | ..... | .... | ... |

The same facts are shown in diagrammatic form in Chart 1, the course of the general death rate being also shown.

Table 1 shows: (a) the periodicity (about every ten years) of the outbreaks; (b) the greater severity of the 1904-1905 epidemic; and (c) the lack of correspondence between the general death rate, and that from cerebrospinal meningitis. Only in 1904 did the two rise together, while in 1905 the former fell while the latter rose. The weekly course of the disease during 1904 and 1905 is shown in Chart 2.

It will be noted that in 1905 the epidemic began earlier in the year by over a month than in 1904, reached its highest point seven weeks earlier, exhibited a recrudescence early in May, another slight one in July and died away about two weeks later. Every case of cerebrospinal meningitis reported in the Borough of Manhattan during 1905 was plotted on a large map of the Borough.

This map shows the prevalence of the disease among the poorer classes and in the densely settled districts. That Italians are extremely susceptible to the disease is borne out by the map, the cases being most numerous on the lower East Side, the lower middle West Side, and the upper East Side ("Little Italy").

The deaths for 1904, arranged by wards, are given in Table 2.

TABLE 2.—TABLE OF DEATHS FROM CEREBROSPINAL MENINGITIS BY WARDS FOR THE YEAR 1904. BOROUGH OF MANHATTAN.

| Ward | Population Census 1900 | Number of deaths | Death rate per 10,000 | Prevailing foreign population. |
|---|---|---|---|---|
| 1 | 9,516 | 5 | 5.25 | Irish, Syrian. |
| 2 | 1,488 | 1 | 6.72 | Irish. |
| 3 | 1,797 | 1 | 5.56 | Irish. |
| 4 | 19,554 | 30 | 15.34 | Italian. |
| 5 | 8,298 | 11 | 13.26 | Irish, Italian. |
| 6 | 20,004 | 30 | 15.00 | Chinese, Italians. |
| 7 | 89,237 | 83 | 9.30 | Irish, Jews. |
| 8 | 29,059 | 31 | 10.67 | Italian, Irish. |
| 9 | 50,650 | 41 | 6.87 | Negroes, Irish. |
| 10 | 71,879 | 45 | 6.26 | Jews. |
| 11 | 99,144 | 38 | 3.83 | Jews. |
| 12 | 476,602 | 174 | 3.65 | Jews, Italians. |
| 13 | 64,117 | 41 | 6.40 | Roumanians, Jews. |
| 14 | 34,035 | 44 | 12.93 | Italians. |
| 15 | 24,066 | 14 | 5.82 | Italians. |
| 16 | 52,808 | 27 | 5.11 | Irish, French. |
| 17 | 130,796 | 104 | 7.95 | Hungarians, Jews. |
| 18 | 61,325 | 39 | 6.36 | Jews. |
| 19 | 257,448 | 94 | 3.65 | Bohemians, Jews. |
| 20 | 89,798 | 45 | 5.01 | Negroes. |
| 21 | 60,211 | 35 | 5.81 | Irish, Americans. |
| 22 | 180,261 | 70 | 3.70 | Negroes, Italians. |
| Total. | 1,850,093 | 1,003 | 5.42 | |

It will be noted that the high death rates (15.34 for the Fourth ward, 15.0 for the Sixth ward, etc.) occur in the wards in which Italians constitute the majority of the foreign population.

### A COMMISSION APPOINTED.

An attempt was made to investigate the disease during the spring of 1904, but no definite information was obtained beyond certain facts going to show that infection might be carried by means of the discharges from the body of the patient. Early in 1905 when cerebrospinal meningitis again became prevalent, the Board of Health determined to investigate the disease systematically, particularly as to its mode of spread and possible modes of prevention. To this end, following the same procedure adopted in the case of the acute respiratory diseases, a commission for the investigation of cerebrospinal meningitis was appointed. It was composed of the following physicians: Thomas Darlington, president board of health, Hermann M. Biggs, medical officer, W. K. Draper, B. K. Dunham, Simon Flexner, Walter B. James, William L. Polk, Walter P. Northrup, Joshua Van Cott and Elser. The commission held its first meeting on March 24, 1905, when it divided into clinical and bacteriologic sections, each section to work along those respective lines.

At the same time, a corps of inspectors of the Department of Health was organized for the investigation of the disease. These physicians were especially selected for the purpose, and further fitted themselves for the work by observing a large number of cases of cerebrospinal meningitis in the hospitals.

The commission urging that lumbar puncture be done in every instance for the purpose of diagnosis, for relief of pressure symptoms, and to provide material for bacteriologic study, a special inspector of the Department of Health was assigned to the performance of this operation on the request of physicians.

The subcutaneous and intraspinous administration of diphtheria antitoxin, having been strongly recommended by certain physicians and institutions, the Department of Health put the services of the diphtheria antitoxin inspectors at the disposal of physicians desiring that mode of treatment. Even at that time the Department took no stand for or against this line of treatment; since then, experience has shown it to be useless.

On April 19, 1905, the Board of Health declared cerebrospinal meningitis to be a communicable disease, and required the reporting of all cases by physicians, enforcement of quarantine, isolation of patients, exclusion of other children in the family from school, and disinfection of premises and bedding on termination of the disease. The sanitary supervision of the disease was assigned to the Division of Communicable Diseases of the Department.

### ROUTINE PROCEDURE.

As elaborated during 1904 and 1905 the routine procedure is as follows: Cases are reported to the Department of Health (1) by physicians and institutions on postal cards furnished for that purpose; (2) by the forwarding of specimens of spinal fluid to the Diagnosis Laboratory; (3) by death certificates; and (4) by complaints of citizens and others.

*Case History.*—A full history of each case (home surroundings, symptoms, outcome, etc.) is obtained by a medical inspector on the accompanying history sheet.

When completed, this is filed according to the address of the patient. Each new case reported is compared

with this record. If the patient remains at his home, full instructions as to the nature of the disease are given to the family verbally and by circular, isolation and quarantine are enforced, other children of the family on the premises are excluded from school, and other tenants in the house notified of the existence of the disease. The case is kept under supervision by an inspector until its termination by death, recovery, or removal. In all fatal cases not previously reported during life, an explanation is demanded and obtained from the attending physician. On termination of the case, disinfection of the premises and bedding is ordered.

To make sure that knowledge of all cases reaches the Department of Health, every death from meningitis (simple, tuberculous, etc.) is also investigated. For results see tabulation of cases.

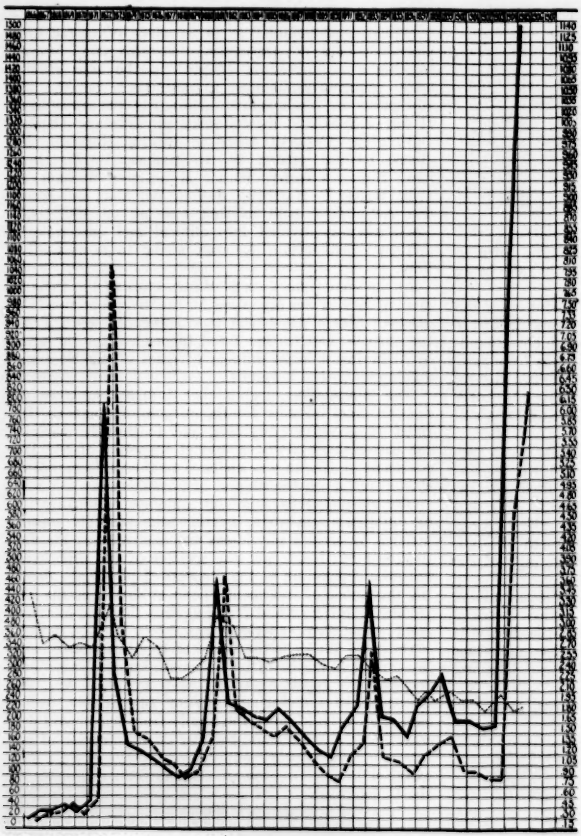

Chart 1.—Showing number of deaths from cerebrospinal meningitis in the old City of New York, and death rate per 10,000 of population. Straight line = number of deaths from cerebrospinal meningitis. Broken line = death rate from cerebrospinal meningitis. Dotted line = general death rate.

*Circular.*—The following circular of information has been prepared for distribution by the medical inspectors, one being left with the family of each patient, or sent to the attending physician.

CIRCULAR OF INFORMATION REGARDING CAUSATION AND PREVENTION OF CEREBROSPINAL MENINGITIS.

Cerebrospinal meningitis is an acute, infectious, communicable disease, caused by a specific germ, the meningococcus. This organism is frequently present in the discharges from the mouths, noses, eyes and ears of patients suffering from the disease, and is thus transmitted from person to person. The disease is always present in the vicinity of New York, sporadic cases occurring at all seasons of the year. From time to time, however, it appears in epidemic form, such epidemics having taken place in 1872, 1881, 1893, 1904 and 1905. Table 1 shows the number of deaths and death rate from the disease since 1866.

Cerebrospinal meningitis occurs most frequently in children between the ages of 1 and 10 years, and is very fatal. Of 1,780 cases occurring in New York during 1905, 1,360 ended in death, a mortality of 76 per cent. The meningococcus (*Diplococcus intracellularis meningitidis* of Weichselbaum) sets up an inflammation of the membranes of the brain and spinal cord. This organism is frequently, and probably as a rule, transmitted from the sick to the well by means of the discharges from the nose and throat. It has also been found in the discharge from the eyes and ears. It is occasionally present in the noses and throats of healthy persons who have come in close contact with the sick or used towels or handkerchiefs soiled by them. Such persons, while not contracting the disease themselves, may transmit it to others, so that the disease greatly resembles diphtheria in its mode of spread, etc. An absolute proof that a given case is one of epidemic cerebrospinal meningitis is furnished by the presence of meningococci in the spinal fluid withdrawn by lumbar puncture. The operation of lumbar puncture is simple, and when properly performed, free from danger. It is sometimes actually beneficial by relieving pressure and the symptoms arising from this.

Outfits for forwarding specimens of fluid for examination may be obtained at any of the drug stores throughout the city which supply the various diagnostic outfits furnished by the Department of Health. Such specimens, on being forwarded to the Diagnosis Laboratory, Fifty-fifth street and Sixth avenue, are examined for the presence of the meningococcus and the results telephoned to the attending physician.

*Prophylaxis.*—Patients shoul be strictly quarantined for at least the first two weeks of their illness. Experience has shown that the danger of infection is much less after this time. The same precautions should be observed as in a case of diphtheria. Those nursing or coming in close contact with the sick should wear gowns while in the sick room and should take great care to disinfect their hands after touching or handling the patients. They should avoid close association with healthy persons, especially children. All discharges from the nose and mouth of the sick should be most carefully disinfected, and all bed linens, towels, handkerchiefs, clothing, etc., should be boiled or soaked

in a disinfecting solution. The dishes, forks, spoons, etc., of the patient should be reserved for his sole use Rubber sheeting should be used over pillows to prevent their saturation with the discharges.

*Treatment.*—No serum or specific remedy for the disease has yet been discovered. The provision of plenty of fresh, cool air, a carefully chosen diet and the treatment of symptoms as they arise are all that can be done.

*Notification.*—The Board of Health, in view of the abovementioned facts, on April 19, 1905, declared cerebrospinal meningitis to be a communicable disease, and required physicians to report all cases coming under their observation to the Department of Health. Since that date the following routine procedure has been adopted:

1. The attending physician must report every case as soon as it comes under his observation. Postal cards are supplied for that purpose.

2. Every case is visited by an inspector to see that the regulations of the Department are being observed. If necessary, the case is kept under observation.

3. A history is obtained from the attending physician.

4. All children in the family are excluded from school until the termination of the case by recovery, death or removal to a hospital.

5. On termination of the case in any manner, the department fumigates the premises with formaldehyd and removes, disinfects and returns bedding, rugs, etc. For further information apply to J. S. Billings, Jr., M.D., Chief of Division of Communicable Diseases, Department of Health.

In conclusion, every physician and layman is urged to cooperate with the Department in the contest with this terrible disease.

THOMAS DARLINGTON, M.D., President.

HERMANN M. BIGGS, M.D., General Medical Officer.

OTHER BOROUGHS.

As the authority of the Division of Communicable Diseases was extended to the other Boroughs of New York City early in 1905, the same routine procedure in connection with cerebrospinal meningitis was introduced, and information obtained of all cases occurring from Jan. 1, 1905. Table 3 gives the number of cases, deaths, death rates, case fatality and morbidity rate for each of the five Boroughs and Greater New York for 1904 and 1905.

TABLE 3.

| Borough. | | Number of new cases reported. | Number of Deaths. | Number of Deaths not previously reported. | Death Rate per 10,000. | Case fatality per cent. | Morbidity rate per 10,000. |
|---|---|---|---|---|---|---|---|
| Manhattan: | 1904 | 1,044 | 1,003 | .. | 4.86 | .... | .... |
| | 1905 | 1,892 | 1,424 | .. | 6.72 | 75.2 | 9.7 |
| Bronx: | 1904 | .... | 80 | .. | 3.11 | .... | .... |
| | 1905 | 118 | 87 | 4 | 3.18 | 73.7 | 4.3 |
| Brooklyn: | 1904 | .... | 277 | .. | 2.09 | .... | .... |
| | 1905 | 689 | 455 | 24 | 3.33 | 66.0 | 5.0 |
| Queens: | 1904 | .... | 29 | .. | 1.53 | .... | .. |
| | 1905 | 38 | 48 | .. | 2.41 | .... | .. |
| Richmond: | 1904 | .... | 14 | .. | 1.95 | .... | .. |
| | 1905 | 18 | 12 | 1 | 1.64 | 66.6 | 2.5 |
| Greater N.Y.: | 1904 | .... | 1,403 | .. | 3.59 | .... | .. |
| | 1905 | 2,755 | 2,026 | 29 | 5.03 | 73.5 | 6.8 |

It will be seen that the death rate for 1905 was twice as great in Manhattan as in any of the other Boroughs, the disease being twice as prevalent in Manhattan as in Brooklyn, two and a half times as in the Bronx, and four times as in Queens and Richmond. It was likewise more fatal in Manhattan than elsewhere, the Bronx coming next in this regard. No accurate record of reported cases could be obtained for Manhattan for 1904, and none at all for the other Boroughs.

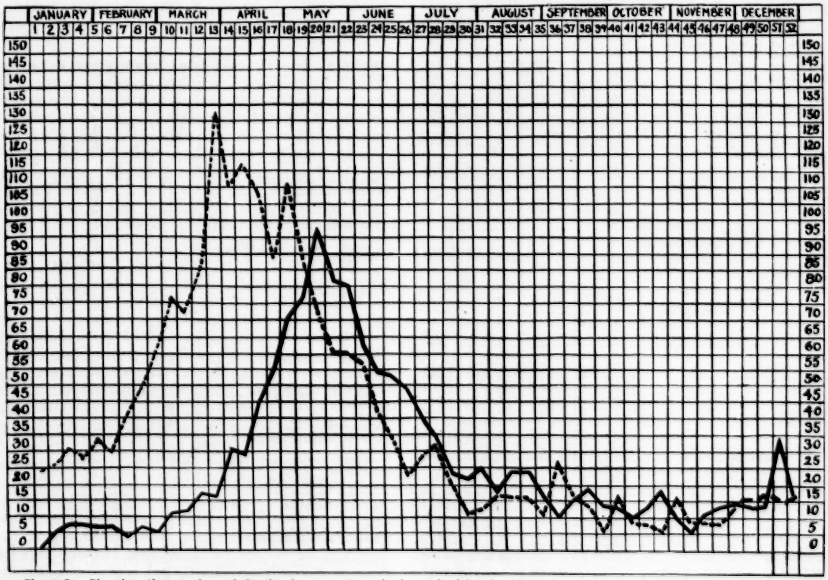


Chart 2.—Showing the number of deaths from cerebrospinal meningitis—is by weeks, for the years 1904 and 1905, in Greater New York. Straight line, 1904. Broken line, 1905.

*Tabulation of Cases.*—As previously stated, the Department of Health has endeavored to obtain full information regarding every case of cerebrospinal meningitis occurring in New York City during 1905. There were 2,755 cases reported; information was obtained in 2,180. The results are shown in Tables 4 and 5.

TABLE 4.—CEREBROSPINAL MENINGITIS, 1905.

| | Manhattan. | Bronx. | Brooklyn | Queens. | Richmond. | Greater New York. |
|---|---|---|---|---|---|---|
| AGE: | | | | | | |
| 0-1 years | 256 | 11 | 63 | 2 | 0 | 332 |
| 1-5 years | 454 | 31 | 146 | 7 | 1 | 639 |
| 5-10 years | 371 | 18 | 103 | 11 | 2 | 505 |
| 10-20 years | 268 | 21 | 108 | 9 | 3 | 409 |
| 20-50 years | 189 | 11 | 60 | 1 | 3 | 264 |
| Over 50 years | 24 | .. | 7 | .. | .. | 31 |
| Total | 1,562 | 92 | 486 | 30 | 9 | 2,179 |
| SEX: | | | | | | |
| Male | 840 | 56 | 249 | 19 | 6 | 1,170 |
| Female | 715 | 35 | 235 | 11 | 3 | 999 |
| Not stated | 7 | 2 | 2 | .. | .. | 11 |
| NATIONALITY: | | | | | | |
| United States | 860 | 53 | 133 | 27 | 6 | 1,079 |
| Italy | 179 | 5 | 67 | .. | .. | 251 |
| Russia | 93 | .. | 58 | .. | .. | 151 |
| Germany | 36 | 1 | 21 | 1 | .. | 59 |
| Ireland | 37 | 1 | 16 | .. | .. | 54 |
| Negro | 21 | .. | .. | 1 | .. | 22 |
| France | 4 | .. | 1 | .. | .. | 5 |
| England and Scotland | 2 | 2 | 0 | .. | .. | 4 |
| Miscellaneous | 10 | 3 | 2 | 2 | 1 | 18 |
| Not stated | 326 | 25 | 186 | .. | .. | 537 |
| DWELLING: | | | | | | |
| Tenement | 1,247 | 57 | 366 | 8 | .. | 1,678 |
| Dirty halls | 443 | 14 | 144 | 1 | .. | 602 |
| Dirty area | 389 | 12 | 133 | 2 | .. | 536 |
| Dirty yard | 29 | 14 | 137 | 4 | 2 | 186 |
| Dirty street | 402 | 20 | 107 | 4 | .. | 533 |
| Total cases showing one or more of above conditions | 471 | 24 | 183 | 11 | 2 | 691 |
| Insufficient ventilation | 255 | 5 | 44 | .. | .. | 304 |
| Insufficient light | 170 | 5 | 49 | 3 | .. | 227 |
| Bad plumbing | 154 | 7 | 73 | 1 | 1 | 236 |
| Lack of cleanliness | 279 | 13 | 72 | .. | .. | 364 |
| Dust | 284 | 18 | 174 | 7 | 2 | 485 |
| Parasites | 145 | 13 | 82 | 11 | 0 | 251 |
| Pets | 182 | 20 | 73 | 15 | 3 | 293 |
| Other cases in home or neighborhood | 353 | 16 | 59 | 5 | .. | 433 |
| PREVIOUS HISTORY: | | | | | | |
| Measles | 138 | 4 | 52 | .. | .. | 194 |
| Whooping cough | 43 | 7 | 22 | .. | .. | 72 |
| Pneumonia | 35 | 6 | 12 | .. | .. | 53 |
| Diphtheria | 37 | 2 | 13 | .. | .. | 52 |
| Scarlet fever | 33 | 3 | 12 | .. | .. | 48 |
| Typhoid | 2 | 1 | .. | .. | .. | 3 |
| PRESENT CONDITION: | | | | | | |
| Clothing & food unsatisfactory | 60 | 2 | 13 | .. | .. | 75 |
| Lack of personal cleanliness | 59 | 3 | 2 | .. | .. | 64 |
| Susceptibility to colds | 118 | 2 | 29 | 9 | .. | 158 |
| PRESENT ILLNESS: | | | | | | |
| Direct exposure to cerebrospinal meningitis | 103 | 4 | 40 | 3 | .. | 150 |
| Exposure to overexertion, overheating | 72 | 5 | 12 | 2 | 3 | 94 |
| Exposure to cold | 73 | 2 | 1 | .. | 3 | 79 |
| Health at onset bad | 100 | 7 | 32 | 1 | .. | 140 |
| SYMPTOMS: | | | | | | |
| Slow onset | 102 | 5 | 20 | .. | 1 | 128 |
| Stiffness of neck | 1,344 | 80 | 411 | 23 | 8 | 1,866 |
| Vomiting | 1,294 | 75 | 394 | 22 | 9 | 1,794 |
| Convulsions | 867 | 55 | 298 | 14 | 3 | 1,237 |
| Headache | 1,172 | 54 | 311 | 23 | 8 | 1,568 |
| ERUPTION: | | | | | | |
| Petechial | 288 | 25 | 108 | 4 | .. | 425 |
| Herpetic | 175 | 26 | 28 | 5 | 1 | 235 |
| Nasal discharge | 188 | 14 | 70 | 11 | 1 | 284 |
| Kernig's sign—Yes | 919 | 55 | 212 | 8 | 4 | 1,198 |
| Kernig's sign—No | 136 | 17 | 45 | .. | 5 | 203 |
| Fever—No | 2 | 1 | 10 | .. | .. | 13 |
| Leucocytosis present | 180 | 6 | 26 | .. | .. | 212 |
| COMPLICATIONS: | | | | | | |
| Eyes | 293 | 38 | 65 | 3 | 1 | 400 |
| Paralysis | 116 | 7 | 32 | 4 | 1 | 160 |
| Ears | 89 | 8 | 21 | 3 | .. | 121 |
| Pneumonia | 61 | 3 | 19 | 1 | .. | 84 |
| Heart | 4 | 1 | 6 | .. | .. | 11 |
| DIAGNOSIS MADE BY LUMBAR PUNCTURE | 619 | 23 | 85 | 1 | 2 | 730 |
| Meningococcus present | 443 | 15 | 52 | 1 | 1 | 512 |
| Clinical signs | 936 | 69 | 401 | 29 | 6 | 1,441 |
| DEATHS: | | | | | | |
| Coma and exhaustion | 325 | 28 | 198 | 3 | .. | 554 |
| Convulsions | 92 | 3 | 56 | 1 | .. | 152 |
| Pneumonia | 25 | 2 | 12 | .. | .. | 39 |
| Cause not stated | 982 | 54 | 189 | 44 | 12 | 1,281 |
| Died 1st day | 109 | 4 | 35 | 3 | .. | 151 |
| Died 2d day | 132 | 10 | 45 | 5 | .. | 192 |
| Died 3d day | 114 | 1 | 39 | 1 | 1 | 156 |
| Died 4th day | 71 | 2 | 26 | 1 | .. | 100 |
| Died 5th day | 74 | 3 | 21 | 2 | .. | 100 |
| Died 5th to 10th day | 157 | 5 | 60 | 7 | 2 | 231 |
| 10th to 20th day | 165 | 8 | 54 | 3 | 1 | 231 |
| 20th day and over | 260 | 17 | 55 | 3 | .. | 335 |
| Not stated | 342 | 37 | 120 | 23 | 8 | 530 |
| RECOVERY: | | | | | | |
| Complete | 210 | 25 | 53 | 2 | 2 | 292 |
| Incomplete | 36 | 2 | 19 | 2 | 1 | 60 |
| DATE OF RECOVERY: | | | | | | |
| 1st week | 8 | 1 | .. | .. | 1 | 10 |
| 2d week | 27 | 3 | 7 | .. | .. | 37 |
| 3d week | 43 | 2 | 10 | .. | .. | 55 |
| 4th week | 56 | 6 | 10 | 1 | .. | 73 |
| 5th week | 133 | 14 | 26 | .. | .. | 175 |
| Not stated | 29 | 1 | 34 | 3 | 1 | 68 |
| ANTITOXIN TREATMENT | 259 | 10 | 44 | .. | .. | 313 |
| Died | 189 | 6 | 28 | .. | .. | 223 |
| Recovered | 70 | 4 | 16 | .. | .. | 90 |
| Given on 1st day | 5 | .. | .. | .. | .. | 5 |
| Given on 2d day | 8 | .. | 1 | .. | .. | 9 |
| Given on 3d day | 7 | .. | 1 | .. | .. | 8 |
| Given on 4th day | 4 | .. | 2 | .. | .. | 6 |
| Given on 5th day | 1 | .. | 1 | .. | .. | 2 |
| Given on 5th to 10th day | 7 | .. | 1 | .. | .. | 8 |
| 10th to 20th day and over | 4 | .. | 1 | .. | .. | 5 |
| Not stated | 224 | 10 | 36 | .. | .. | 270 |
| Death on 1st day | 7 | .. | .. | .. | .. | 7 |
| Death on 2d day | 13 | .. | 1 | .. | .. | 14 |
| Death on 3d day | 12 | .. | 1 | .. | .. | 13 |
| Death on 4th day | 17 | .. | .. | .. | .. | 17 |
| Death on 5th day | 14 | .. | 2 | .. | .. | 16 |
| Death on 5th to 10th day | 26 | .. | 5 | .. | .. | 31 |
| Death on 10th to 20th day | 18 | .. | 4 | .. | .. | 22 |
| Death on 20th day and over | 67 | 4 | 4 | .. | .. | 75 |
| Death not stated | 16 | 2 | 10 | .. | .. | 28 |
| *Horse serum was injected in | .. | .. | .. | .. | .. | 8 |
| †Injected methylene blue into spinal canal | .. | .. | .. | .. | .. | 1 |
| Fumigation and disinfection ordered | 236 | 30 | 85 | 8 | .. | 359 |

* All of whom died.

† Recovered.

TABLE 5.—ORIGINAL DIAGNOSIS, CEREBROSPINAL MENINGITIS.

| | Manhattan. | Bronx. | Brooklyn | Queens. | Richmond. | Totals. |
|---|---|---|---|---|---|---|
| PROVED TO BE: | | | | | | |
| Tubercular meningitis | 63 | 3 | 38 | 1 | 1 | 106 |
| Simple meningitis | 17 | 5 | 28 | .. | .. | 50 |
| Gastroenteritis | 11 | .. | 37 | .. | .. | 48 |
| Pneumonia | 17 | 2 | 10 | .. | .. | 29 |
| Traumatic meningitis | 1 | 1 | 10 | .. | .. | 12 |
| Septic meningitis | 5 | .. | 6 | .. | .. | 11 |
| Doubtful cerebrospinal meningitis | 6 | .. | 3 | .. | .. | 9 |
| Typhoid fever | 2 | .. | 1 | 1 | .. | 4 |
| Rheumatism | 3 | .. | 1 | .. | .. | 4 |
| Traumatism | 2 | .. | 2 | .. | .. | 4 |
| Scarlet fever | 4 | .. | .. | .. | .. | 4 |
| Epilepsy | 3 | .. | .. | .. | .. | 3 |
| Insanity | 3 | .. | .. | .. | .. | 3 |
| Ptomain poisoning | 2 | .. | .. | .. | .. | 2 |
| Rachitis | .. | .. | 2 | .. | .. | 2 |
| Cerebral abscess | 1 | .. | 1 | .. | .. | 2 |
| Apoplexy | 2 | .. | .. | .. | .. | 2 |
| Tonsilitis | 1 | .. | 1 | .. | .. | 2 |
| Syphilitic meningitis | 1 | .. | .. | .. | .. | 1 |
| Cretinism | .. | .. | 1 | .. | .. | 1 |
| Uremia | .. | .. | 1 | .. | .. | 1 |
| Septicemia | 1 | .. | .. | .. | .. | 1 |
| Retroperitoneal fibroma | 1 | .. | .. | .. | .. | 1 |
| Malaria | 1 | .. | .. | .. | .. | 1 |
| Cerebral neoplasm | 1 | .. | .. | .. | .. | 1 |
| Empyema | 1 | .. | .. | .. | .. | 1 |
| Postoperative meningitis | 1 | .. | .. | .. | .. | 1 |
| Cerebral embolism | 1 | .. | .. | .. | .. | 1 |
| Acute indigestion | 1 | .. | .. | .. | .. | 1 |
| Cellulitis of foot | 1 | .. | .. | .. | .. | 1 |
| Cerebral edema | 1 | .. | .. | .. | .. | 1 |
| Chronic spinal diseases | 1 | .. | .. | .. | .. | 1 |
| Scorbutus | 1 | .. | .. | .. | .. | 1 |
| Alcoholism | 1 | .. | .. | .. | .. | 1 |
| Influenza | 1 | .. | .. | .. | .. | 1 |
| Chickenpox | 1 | .. | .. | .. | .. | 1 |
| Bronchitis | 1 | .. | .. | .. | .. | 1 |
| Hydrocephalus | 1 | .. | .. | .. | .. | 1 |
| Not stated | 15 | 3 | 21 | .. | 1 | 40 |
| Total | 176 | 14 | 163 | 2 | 2 | 357 |
| Other forms of meningitis investigated | .. | .. | .. | .. | .. | 84 |
| Original diagnosis confirmed | .. | .. | .. | .. | .. | 72 |
| "Simple" meningitis proving to be cerebrospinal meningitis | .. | .. | .. | .. | .. | 10 |
| Tuberculous meningitis proving to be cerebrospinal meningitis | .. | .. | .. | .. | .. | 2 |

REMARKS.

*Sex.*—The cases were divided fairly evenly into males, 55 per cent., and females, 45 per cent., the same holding good for all boroughs.

*Age.*—Sixty-seven per cent. of the cases occurred in children under 10 years of age, and 15 per cent. in infants under one year. Only 19 per cent. of the patients were adults, and only 1 per cent. over 50 years of age.

*Nationality.*—The statement that Italians are very susceptible to the disease is borne out by the fact that 15 per cent. of the patients were of that race. Excluding Americans, the Italians form 44 per cent. of the remainder. Russians came next, then Germans, and then Irish; negroes constituted only 1 per cent. and 21 of the 22 negroes lived in Manhattan.

*Dwelling.*—Of the patients, 76 per cent. lived in tenement houses, showing the social status in the majority of the cases. In 533 instances, (24 per cent.), it was found that the halls, areaways, or yards (one or all), or the streets in front of the houses, were dirty and insanitary. In 13 per cent. the light was bad, in 10 per cent. the ventilation was insufficient, and the plumbing insanitary. In 10 per cent. the rooms were dirty, ill-kept, and dusty. A history of the existence of parasites (fleas, etc.) was obtained in 11 per cent. and in 13 per cent. animal pets were kept. A history of other cases of cerebrospinal meningitis in the same house or neighborhood was obtained in 19 per cent. of the cases.

*Previous History.*—The commonest preceding disease was, of course, measles, followed by whooping cough, diphtheria and pneumonia in the order named.

*Present Condition.*—Clothing and food were unsatisfactory, and there was a lack of personal cleanliness in only 3 per cent. of the cases. A history of susceptibility to colds was given in 7 per cent.

*Present Illness.*—In only 6 per cent. of the cases had there been any direct exposure to other cases of cerebrospinal meningitis, and in only a small number was there evidence of direct transmission of the disease. Drs. Bolduan and Goodwin, of the Department of Health,[1] have investigated these multiple cases, of which they claim to have found 88 instances, including in all 200 cases. But less than 100 instances of possible transmission out of over 1,500 cases is not very weighty evidence, and in all but a few, direct transmission was only possible, not probable. In only 4 per cent. was there a history of exposure to over-exertion, and in 3 per cent. of exposure to cold. In the majority of cases, the patients were well just previous to the onset of the disease, only 6 per cent. being in bad health.

*Symptoms.*—In all but 5 per cent. the onset was sudden. Stiffness of the neck was the commonest symptom, being present in 85 per cent. of the cases. Closely following it came vomiting, headache and convulsions. An eruption was present in 30 per cent. of the cases, being petechial in 19 per cent. and herpetic in 11 per cent. Nasal discharge was noted in only 13 per cent. If the disease is always transmitted by the discharges, it would seem that nasal discharge should be more common. Kernig's sign, of great value in diagnosis, was absent in only 15 per cent. of the cases. Fever and leucocytosis were practically always present.

*Complications.*—The eyes were most frequently involved. Next came paralysis of other muscles, then otitis.

*Diagnosis.*—In 33 per cent. of the cases lumbar puncture was performed to confirm the diagnosis, and in 82 per cent. meningococci were found. In the remainder the diagnosis was made by clinical signs alone. Lumbar puncture was performed seven times in Manhattan to once in Brooklyn.

*Cause of Death.*—This was usually from coma and exhaustion. About 7 per cent. of the patients died on the first day, less than 34 per cent. during the first five days, and 39 per cent. after ten days. Of those who recovered 84 per cent. recovered completely. The majority of the patients did not recover until after the fourth week, but in ten cases (3 per cent.) recovery was stated to have taken place during the first week.

*Antitoxin Cases.*—Diphtheria antitoxin was used in 313 cases, of which 223 were fatal, a fatality of 71 per cent. Careful study of the individual cases failed to show any ground for believing that the antitoxin had any beneficial effect whatsoever. In most of the cases terminating in recovery, only small doses were given; and late in the disease and in only two was more than one dose given. Whereas in several of the fatal cases very large amounts of antitoxin were used. In one case 15,000 units were given every other day for two weeks—a total of 115,000 units. In other cases 60,000, 88,000, and 32,000 units were given, and in one case 24,000 units were given on the first day of the disease. One thing is shown clearly, viz., the harmlessness of diphtheria antitoxin.

*Mistaken Diagnosis.*—In 357 instances investigation showed the original diagnosis of cerebrospinal meningi-

**DEPARTMENT OF HEALTH—THE CITY OF NEW YORK**

COMMISSION FOR THE INVESTIGATION OF CEREBRO-SPINAL MENINGITIS

Record No. _____ Reported by _____ Address _____
Date _____ Card, Lab., Comp., Tel., Assigned _____ to _____ Returned _____
Name _____ Address _____ Floor _____ Borough _____
Age _____ M. F., Race _____ P. H., Hot., Apart., Flat, Ten., B. H., No. Families _____
Sanitary Conditions: Halls _____ Areaway _____
Yard _____ Street _____
Other cases C. S. M., in house or neighborhood _____
No. rooms occupied _____ Total air space _____ cu. ft. Ventilation _____ Light _____
Heat _____ Plumbing _____ No. in family _____ Adults _____ Children _____
General cleanliness and sanitation _____
Prevalence of dust _____
Parasites, (Fleas, B. B. Pedic.) _____ Animal Pets _____
PATIENT'S HISTORY _____ Child, Breast, Bottle, Previous diseases, (Diphth.) _____
Pres. Health as to Throat, Nose, Ear, Mouth _____
Clothing _____ Food _____ Personal cleanliness _____
School _____ Playground _____ Workplace _____
Susceptibility to colds _____ Exposure to C. S. M. _____
Exposure to over-exertion, mental or physical, or overheating _____
Exposure to cold, damp, sudden temperature changes _____
Health at onset _____ Onset, Date _____ Character _____
Stiffness Neck _____ Headache _____ Convulsions _____ Vomiting _____
Eruption, Petechiæ, Herpes _____ Nasal Discharge _____ Kernig's Sign _____
Temperature _____
Blood: Leucocytes _____ Other Symptoms _____
Course _____
Complications, Day of Devel. _____ Eye _____ Ear _____
Pneumonia _____ Paralysis _____
Others _____

Front.

Diagnosis made by (a) Clinical Signs _____ Lumbar Puncture _____ Result _____
TREATMENT: Medical _____ Result _____
Baths, etc. _____ Result _____
Antitoxin, Horse Serum, etc. _____ Result _____
Lumbar Puncture _____ Result _____
Death on _____ day from _____
Recovery: (a) Complete on _____ day. (b) Incomplete _____
Sequelæ _____
Temp. reached normal _____ day _____
Specimens taken: Give date and where sent _____
Spinal Fluid _____ Result _____
Cultures, (Nose) (Throat) _____ Result _____
Blood _____ Result _____
Urine _____ Result _____
Opinion of Investigator as to Etiological Factors _____
AUTOPSY: Anatomical Findings _____
Bacteriological Findings _____
REMARKS: _____

Back.

Chart 3.—Case history card.

tis to have been mistaken. One-third of the cases proved to be tuberculous meningitis. The other conditions most frequently mistaken for cerebrospinal meningitis were simple meningitis, gastroenteritis and pneumonia. Of

84 instances of meningitis supposed not to be the epidemic cerebrospinal form, 12, or 14 per cent., proved to be cerebrospinal meningitis.

CONCLUSION.

It will be seen that clinical investigation so far has thrown very little light on the mode of transmission of the disease, nor has any effectual mode of treatment been discovered. It is to the laboratory workers that we must look for assistance, and already new and valuable facts have been discovered regarding the meningococcus, its habitat, mode of transmission, viability, methods of identification, etc.

A very important point that has been brought out is that, in all probability, the disease is much more infectious during the first two weeks of its course. Guided by this, the Department of Health has enforced quarantine for at least the first two weeks, in all cases in which the patients remained at home the medical inspectors keeping the cases under observation, giving all necessary instructions, and ordering disinfection of the rooms and bedding on termination of the case. As a possible result of these precautions the number of deaths reported in the first nineteen weeks of 1906 have been 431 as compared with 1,300 in the same period for 1905.

## SOME PARASITES INFESTING THE HUMAN INTESTINE.

### DESCRIPTION, DIAGNOSIS AND TREATMENT.

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Parasites which inhabit the human alimentary canal are usually described as entozoa or intestinal worms. There are about 20 different known species of the entozoa, all of which infest the alimentary canal of vertebrate animals or man. Entozoa of the order of *Cestoda* are commonly known as tapeworms, and of this particular worm about 10 different varieties have been observed and studied. They inhabit either the intestines of some vertebrate animal or man, but it is the parasite infesting the alimentary canal of man with which the physician is chiefly concerned.

DESCRIPTION AND VARIETIES.

Three species of tapeworm are of special interest to the medical practitioner and all are usually found in the upper third of the small intestines.

*1. Tænia Solium* (*Pork Tapeworm*).—This is an armed parasite, the head of which is provided with a circle of minute hooklets for the better attachment of the worm to the mucous folds of the intestines. The larval form of this particular parasite is the *Cysticercus cellulosæ*, which, if present in pork, gives the meat a peculiar spotted appearance, known as "measly pork." This tapeworm is the smallest of the three varieties, measuring, when mature, from 5 to 15 feet, and it is said that a single worm is capable of producing from 4 to 5 million of sexually ripe ova. Erroneously the specific name of *solium* (*solus, solitare, alone*) was given to this parasite, in the belief that it infested the alimentary canal of man only or alone.

*2. Tænia Saginata* or *Medio-canellata* (*Beef Tapeworm*).—This is an unarmed parasite, not provided with hooklets. The larval form of this tapeworm is the *Cysticercus bovis* found in beef. This worm is of moderate length, measuring, when matured, from 15 to 25 feet.

*3. Bothriocephalus Latus* (*Fish Tapeworm*).—This is also an unarmed parasite. It attains great length, from 25 to 30 feet.

The head of the tapeworm, when viewed with the unaided eye, appears about the size of the head of an ordinary pin. On it may be distinctly discerned four minute dark pigmented dots, which, when looked at under an ordinary magnifying glass, are seen to consist of small round discs or suckers. Immediately following the head is the slender, threadlike neck, about one inch in length, from the end of which a distinct segmentation may be observed. New joints are continually produced by budding. On close inspection it will be noticed that all segments or joints assume a distinct shape, that the younger joints are much wider than they are long and very small, but as they grow they gradually widen, and at the same time they grow very much in length, so that by the time the segments reach about the end of the first third of the worm's length the joints are distinctly quadrilateral, from which point they begin to grow in inverse order, the older and more mature segments being very much longer than they are wide and very much larger.

Tapeworms vary much in size. They grow in length from 8 or 10 to 25 or 30 feet. Stories occasionally related of patients passing a single tapeworm measuring from 60 to 80 or more feet should be accepted with a great deal of allowance, as examination of a large number of expelled worms has not verified any such lengths. I have in my possession a specimen of a mass of tapeworm passed by one of my patients which measures about 70 feet, but which, on close inspection, proves to be the remains of five distinct tapeworms, as five distinct heads are seen.

If a patient infested with a tapeworm, in whose case a positive diagnosis has been made, seeks medical advice in order to rid him of his undesirable guest, it becomes the imperative duty of the physician to administer at once such known remedies as will expel the parasite, head and body, so as to avoid more serious consequences which may follow delay. A fit of vomiting in a patient so infested may force one or more of the mature segments up into the stomach and the contents of which, by digesting such segments (should they contain ripe or mature ova), may set the ova free, and by burrowing into and through the various coats of the stomach or some other portion of the alimentary tract they may enter the circulation and be deposited in the liver, the brain or the muscular structure of the body in the larval form (*Cysticercus*), causing most serious disturbances and in extreme cases may be even fatal to life.

SYMPTOMS AND DIAGNOSIS.

The so-called subjective symptoms of the presence of the *Cestoda* infesting the alimentary canal are so variable and so unreliable that too much dependence must not be placed on such signs. However, there are certain distinct symptoms which, if present, may lead the physician to suspect the existence of intestinal worms. Subjective symptoms are usually divided into two classes, gastrointestinal and reflex.

Under the head of gastrointestinal may be chiefly mentioned colicky pains in the stomach and bowels, paroxysmal, at times more or less distress following the ingestion of food or of certain articles of food, a distended or a bloated condition of the abdomen, at other times a ravenous, inordinate or occasionally a perverted appetite, which is again followed by a great dislike for food. Constipation may alternate with diarrhea, more or less nausea or vomiting.

The reflex symptoms are usually manifested by nasal or rectal irritation, by cardiac palpitation, tinnitus aurium, dizzy or fainting spells, depression of spirits, lassitude, salivation, pains in the limbs, and various other nervous phenomena, hypochondria, convulsions, hysteria, in women often menstrual disturbances are attributable to the presence of tapeworms, and not infrequently mania.

Both gastrointestinal and reflex symptoms are only presumptive evidence of the presence of entozoa. A positive diagnosis can be made only when pieces or segments are voided or passed with the stools or pass involuntarily from the anus of the host while either walking or while at work; in fact, usually the very first intimation that the patient has of the presence of a tapeworm is when he seeks medical advice and gives a history somewhat like this: That while out walking he suddenly felt something pass out of the anus and slip down his leg and which, on examination, proves to be a single joint or segment of a parasite. This, then, is the only positive diagnostic sign.

TREATMENT.

From the earliest history of medicine to the present time various remedies and drugs have been offered and recommended for the removal of entozoa. Some are still in use; many more are obsolete. Some possess distinct anthelmintic properties and only a few are truly teniafuges. Some are used chiefly by the laity; others are prescribed by physicians only. From time to time various mixtures and decoctions have been recommended and extolled as specifics which, on careful trial, have been found utterly unreliable and worthless as teniafuges or tapeworm expellers.

A formula which a few years ago was much vaunted as a teniacide, in some quarters heralded as a specific, was a mixture of castor oil, croton oil, chloroform and fluid extract of ergot, which, with mucilage of acacia, was made into an emulsion, and a carminative was added to make the dose more palatable. This heroic dose was given in the early morning on an empty stomach, and, although its ingestion was followed by the removal of large quantities of segments and sections of tenia, it had no effect in completely expelling tapeworms.

A good remedy, although now somewhat obsolete, but occasionally used by old European practitioners, one which has decided tenifuge properties, is the black oxid of copper, given in ½ to 1 grain doses. It is especially recommended in the removal of tapeworm from children, to whom it is given in powders mixed with sugar and flavored with either oil of lemon or peppermint to suit the taste. A powder is taken every morning and evening for 8 or 10 days.

Another remedy used chiefly by the laity, and one which possesses some anthelmintic properties, is coral root (*Polypodium vulgare*). A pint decoction, prepared by taking about 2 oz. of the powdered or bruised coral root, using sufficient hot water to make one pint, is given in divided doses, half an hour apart, on an empty stomach, early in the morning, following a fast the previous day.

In some quarters crude petroleum is still in use as a somewhat efficient tapeworm remedy. It may be made into an emulsion and flavored with oil of peppermint, cinnamon or wintergreen and sweetened in order to make it palatable. The following is a desirable formula:

| | | |
|---|---|---|
| ℞. Olei terrestris crudi | ℥iv | 16 |
| Olei menthæ piperitæ | gtt. iv | 25 |
| Pulveris acaciæ | | |
| Sacchari albi, āā | ℥iv | 16 |
| Aquæ q. s. ad | ℥iv | 120 |

M. Ft. emulsio. Sig.: A few teaspoonfuls of this emulsion every morning for eight days.

Oil of turpentine, given either on sugar or in form of an emulsion, has also some advocates, and is an efficient remedy. An emulsion may be prepared as follows:

| | | |
|---|---|---|
| ℞. Olei terebinthinæ rectificati puri | ℥ii | 8 |
| Olei ricini | ℥i | 30 |
| Pulveris acaciæ | | |
| Sacchari albi, āā | ℥i | 30 |
| Aquæ cinnamomi q. s. ad | ℥vi | 180 |

M. Ft. emulsio. Sig.: Take in the morning, in two doses.

This is taken in the morning in two doses in intervals of one hour.

Another emulsion (*Emulsio pepo*), one which is very efficient and popular with the laity, is prepared from pumpkin seed. This emulsion is best prepared by removing the outer inert shell of the pumpkin seed and pounding, bruising or triturating about two ounces of the inner kernel into a pulpy mass, gradually, in small quantities at each time, adding water until a milky mixture is obtained, then strain through a cloth, press and pour on the mass sufficient water to make a pint. This emulsion is given in two doses early in the morning in intervals of one hour on an empty stomach. The patient is required to fast the previous day in order to "make the worm hungry," as the popular saying is.

These remedies all possess some anthelmintic properties, are all occasionally used and with fairly good success, but can not always be relied on for the complete removal of tapeworms. Remedies of more decided and positive tenifuge properties are the following, and in the order given their value increases as tapeworm expellers.

*Kousso* or *Kosso*.—The powder of the flowers of *Brayera anthelmintica*, a plant indigenous to eastern Abyssinia, is given in doses of 2 to 4 drams either in infusion, decoction or mixed with some black coffee. It is a most effective tapeworm expeller.

*Kamala* (*Powdered*).—The powder of the small glands enveloping the fruit of *Rottlera tinctoria*, a tree indigenous to China, Malabar and Philippine Islands, is given in doses of 1 to 2 drams in milk, coffee or coca. It is one of the most reliable of the teniacides, but has this decided disadvantage, that if given to some patients it induces most severe and violent emesis.

*Pomegranate Bark*.—The bark of the root of *Punica granatum*, a shrub indiginous to the countries bordering on the Mediterranean sea, is next in importance as an entozoa expeller. A decoction prepared from the fresh, dried bark by, taking 2 oz. of the coarsely powdered drug, macerating it in tepid water for about 12 hours, gently boiling, straining and adding sufficient water to make about one pint. This is given in 3 doses in intervals of half an hour in the morning on an empty stomach. A cathartic drug should be administered the evening before.

*Pelletierinæ Tannas* or *Punica Tannas*.—This is a tannate of the mixed alkaloids obtained from pomegranate bark and is of most decided efficiency and reliability as a parasiticide. It may be given in doses of from 2 to 5 or more grains.

*Pelletierinæ Tannas* is now official, being one of the newer remedies added to the Pharmacopeia, 1900.

*Ethereal Extract* or *Oleoresin of Male Fern*.—This

is an extract or oil prepared from the rhizome and rootlets of *Nephrodium, Polypodium, Polystichum, Aspidium filix mas,* a plant indigenous to Europe, and is the most efficient of all reputed teniafuges. In the writings of former therapeutists, as well as of those of the present time, oleoresin of male fern has always held the foremost rank as a tapeworm expeller. Its administration either in capsules, mixtures or emulsions is usually followed by very little, if any, depressing effects and it undoubtedly is the most efficient, reliable and trustworthy of the whole list of anthelmintics. It is usually given in doses varying from 10 drops to a dram or more.

All the various tapeworm-expelling remedies enumerated above are administered either singly or in combination in mixtures, capsules, cachets, emulsions or in any form whatsoever. It is usually required that the patient must abstain from taking food or must take food but moderately for at least one day preceding the taking of the teniafuge, or that the evening meal should consist of such articles of food as sour or pickled herring or fish, stale bread and a glass of water, in order to "make the worm hungry," as the saying is.

### THE RATIONAL METHOD.

I have had a large and extended experience in the treatment of patients suffering from tapeworm, and in not a single instance have I failed to expel the undesirable guest, head and all, if the following instructions were closely observed.

As a rule, I do not ask the unfortunate sufferer either to fast or to subsist on certain articles of diet. Fasting is wholly unnecessary, illogical, and no valid reason can be given therefor, as the worm can be expelled without much difficulty either while the patient fasts or freely partakes of food. On the contrary, the patient should be asked to eat a full dinner in the evening, and he should be fully prepared to eat an equally hearty meal in the morning. Between these two meals the unwelcome visitor takes his departure. Begin the treatment by giving the patient, on retiring, an ordinary cathartic capsule or pill somewhat like the following:

| | | |
|---|---|---|
| ℞. | Hydrargyri chloridi mitis.....gr. ii | 13 |
| | Extracti coloeynthidis compositus | |
| | Extracti cascara sagradæ, ää.....gr. iv | 26 |
| | Pulveris jalapæ.....gr. vi | 39 |

M. Ft. capsulæ No. iii. Sig.: Take all three capsules at bedtime, making one dose.

It is most desirable to procure good evacuation of the bowels before giving the tapeworm remedy, and in order to obtain that the formula above given may be varied to suit each individual case. Should the patient's bowels be unusually obstinate, the cathartic action may be somewhat increased and correspondingly decreased if the bowels are easily evacuated. Early the next morning and after the bowels are well emptied give the following teniafuge:

| | | | |
|---|---|---|---|
| ℞. | Resinæ podophyllini.....gr. i | | 06 |
| | Oleoresini filicis maris.....℥iss | 6 | |
| | Extracti fluidi kamalæ.....℥iii | 12 | |
| | Spiritus chloroformi.....℥i | 4 | |
| | Mucilago acaciæ.....℥i | 30 | |
| | Aquæ menthæ piperitæ q. s. ad.....℥iii | 90 | |

M. Ft. emulsio. Sig.: Take in three equal doses at intervals of half an hour.

A swallow of coffee or warm milk or a little warm water and whisky may be taken after each dose. A very much more pleasant way for administering the above teniafuge is in the form of a capsule prepared as follows: Put the 3 drams of fluid extract of kamala into a small evaporating dish and over a water bath evaporate the extract to the consistency of a thick syrup; then add the grain of resin of podophyllin and, lastly, while still slightly warm, add the 1½ drams of oleoresin of male fern; thoroughly incorporate all and fill into empty capsules, making either 9 or 12 capsules, and of this number give either 3 or 4 in intervals of half an hour. The above quantity fills about nine No. 0 capsules of standard size or twelve of No. 1.

From the time that the teniafuge is administered all evacuations of the bowels should be passed into a commode about half filled with tepid water so as to secure the parasite for examination. After careful and repeated washings, by repeatedly pouring water into the commode until it is nearly full, allowing all heavy particles to subside, then decanting the supernatant fluid, the mass of the worm will be found at the bottom, head and all. Examine the mass carefully for the head, which is usually attached to the finest or thread-like section of the worm, generally to a piece from half a foot to one and a half feet in length.

170 Colorado Avenue.

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## PRELIMINARY REPORT OF THE TREATMENT OF IDIOPATHIC EPILEPSY BY APPENDICOSTOMY FOR COLONIC IRRIGATION.*

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Epilepsy is but a symptom revealing some irritation of the general nervous system. It has been aptly divided for purposes of classification into traumatic and idiopathic. In traumatic epilepsy, the cause is evident. Pressure from bone, foreign body, or blood clot is the source which so irritates the brain as to interfere materially with the normal distribution of nerve force through the body.

Certain chemical substances have a distinct affinity for the cortical cells of the brain and cord and, as a result, excite them. Among the alkaloids, strychnin is prominent. Among toxins resulting from infection, the poison of tetanus and hydrophobia afford us similar examples. These toxins generated in the body under the influence of the developing pathogenic organism finally accumulate to such an extent as to produce a violent action on the cerebrospinal system, followed by contractions of the muscular system characteristic of these diseases. Very similar is the reaction of strychnin, which, if given in sufficient doses, will produce analogous muscular contraction.

One of the curious phenomena attending the physiologic action of drugs is the tendency of some, such as digitalis, to accumulate in the body until a certain amount has been taken, and then the physiologic action of the accumulated doses is manifested. This is known as the cumulative action of a drug.

Is it not possible that some such cumulative manifestation of a toxin as a result of the intoxication from improper food or tissue metabolism may be at the bottom of the spasmodic and periodic manifestations known as idiopathic epilepsy?

In early childhood, spasms are known to be due to

* Read before the Philadelphia, Medical Society, May 23, 1906. Patient was exhibited to the society.

improper digestion, or irritation of a foreign body, or the presence of worms. Epileptic patients are generally afflicted with some intestinal disorder. They suffer at least from chronic and habitual constipation. They complain of multiform digestive symptoms indicative of imperfect metabolism, but at the same time so obscure as to give no decided clue as to what the imperfect transformations of food may be.

At present most of those who have given special attention to this class of cases agree that the chief element in the rational treatment of these patients is an intelligent diet; based on restriction of food, its simplicity and predigestion.

The antispasmodics as remedial measures have had a fair trial. These drugs are good for awhile, but they do not give permanent relief; nor do they in any way reach the etiologic factor by tending to remove or control the cause of epilepsy.

### FUNCTION OF THE COLON.

Metchnikoff, in his work, "The Nature of Man," says that from a standpoint of anthropology the colon is a receptacle for refuse undigested matter; that human life could be sustained in a purer and more physiologic state without its presence. Sufficient digestive function is performed by the stomach and small intestine; sufficient absorption for the sustenance of the body takes place from these regions; and hence, as a matter of fact, the whole length of the colon could be dispensed with so far as our physiologic necessities are concerned.

In performing surgical operations on the intestinal tract I have often noticed that the character of the intestinal contents becomes really fetid only past the ileocecal valve. When the intestinal contents have passed into the colon, however, the digestive processes are almost completed, and a process of absorption on the part of the colon takes place rather than of further digestion.

The colon fulfills an economic purpose in removing, so far as possible, from the refuse products all the nourishing elements which may still remain. In order to achieve this result, however, the intestinal contents have a long road to travel and may be retained a long time before they are finally expelled. It is during this period of inactivity and comparative quiescence of the contents of the colon that the micro-organisms which normally inhabit the colon have full sway. They develop and produce putrid gases and toxic changes in the albuminoids so complex as to escape the analysis of the chemist.

### POSTOPERATIVE CONSTIPATION.

What surgeon does not know the harmful effects of constipation after a surgical operation? The general depression of the patient, rapidity of pulse and elevation of temperature? What physician has not relieved a most obscure form of indisposition by the proper correction of habits of constipation, thereby removing the autointoxication? The power of absorption of the rectum and colon is remarkable. I have nourished a patient exclusively by rectum during a period of seven weeks. This fact illustrates the possibility of absorption on the part of the rectum, which presents the same power of absorption on whatever fecal matter passes through it.

### TREATMENT.

With this source of poison as a possible cause, and its cumulative action in certain human bodies, I have thought that it could be a sufficient etiologic factor in some cases for the sudden spasmodic manifestations which are called epilepsy. It would follow, therefore, that any method by which this poison should be either destroyed or its absorption prevented would contribute toward lessening the nature and frequency of epileptic attacks. With this in view, I have performed appendicostomy, creating an artificial fistula at the beginning of the colon. I direct the patient to flush out his colon with two gallons of warm water, morning and night. The patient, in a recumbent position, introduces the nozzle of the irrigator into an ordinary catheter, which, in its turn, is passed down through the appendiceal fistula into the colon. The water is allowed to flow and is received into a bed pan on which the patient lies This copious irrigation does not seem to affect materially the patient's nutrition. His appetite improves, while a sense of well-being gives him a brighter and more cheerful appearance. The irrigation is not accompanied by pain, and the patient soon becomes so skilled in its use as to require no assistance whenever the indication exists.

*Patient.*—The first patient on whom this method was tried was a man, L. A. S., aged 23, a sufferer from epilepsy since the age of 16, with attacks every week at first, finally as often as three times a day, losing consciousness about one hour each time. He was sent by Dr. C. S. Ruch of Lehighton, Pa.

*Operation.*—The operation was performed in the Medico-Chirurgical Hospital, July 1, 1904, and the irrigations were begun July 5. He had a violent epileptic attack on the day after the operation.

*Postoperative History.*—The irrigations were taken systematically twice daily and continued for three months. Then he took but one irrigation three times a week for three months; then one irrigation a week for three months. He has not taken any irrigation since May, 1905, and from the day of the first irrigation until the present time he has never had another attack. He has gained 20 pounds, has returned to work, and feels absolutely well.

### CONCLUSIONS.

This and four other cases of a similar nature—not operated on sufficiently long enough to be reported in full, but giving ample encouragement for the continuance of the treatment—should afford sufficient reason for considering this method. The treatment is harmless, based on sufficiently sound theoretical and scientific grounds; and even should improvement not result to the epilepsy it can not fail to do good from a hygienic standpoint in affording general relief from the constipation to which most sufferers from epilepsy are subject.

The repeated flushings of the colon keep it as nearly empty as possible and almost eliminate its presence as a reservoir for undigested and putrefying substances. At all events, although there is a constant flow of intestinal contents from the ileocecal valve, the repeated flushings do not allow these substances sufficient time to serve as a culture medium for the hoards of bacteria present, and hence reduce to a minimum the possible production of obnoxious toxins so liable to be reabsorbed into the system. Fear of a permanent artificial opening into the intestine should not be entertained. It is a matter of the greatest ease to allow the artificial fistula to close; and, after months of treatment, should one desire to discontinue the flushings of the colon, the natural processes of evacuation are resumed without difficulty.

Let it be distinctly understood that we have no reason to expect that all cases of idiopathic epilepsy will improve under this method of treatment; but only those whose existence can be traced to this particular cause. The procedure here advocated should be accompanied by the proper dietetic measures usually resorted to in the treatment of these cases.

# ACETANILID POISONING FROM THE USE OF PROPRIETARY HEADACHE POWDERS.*

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The use of "patent medicines" by the laity has grown to such proportions that it has come to be looked on by physicians as a necessary evil. Many such medicines are inert, in which case their deleterious influence is exerted chiefly on the pocket of the purchaser. Unfortunately, patent medicines containing potent drugs are often sold without the slightest warning concerning excessive doses, and the experienced physician who has not seen injurious effects from them is either hopelessly blind or hopelessly prejudiced. Warnings against overdoses are rarely seen on the labels of such remedies, for the reason that the public would take alarm and the sale be diminished.

No class of remedies is subject to more abuse than the so-called headache cures. In no class is caution more needed, for the chief ingredient is almost always acetanilid. The reason for the wide use of this drug is easily seen when it is noted that the remedy used in the two cases herewith reported costs 25 cents for a box of ten powders, each containing about four grains of acetanilid, or about four grains of acetanilid and about a grain of camphor. Acetanilid may be bought by any one for 40 cents a pound and camphor is high at $1.25 a pound.

The symptoms of acetanilid poisoning need not be given in detail here, but we may say in brief that cases fall into two classes. In acute cases due to single doses the chief phenomena noted are those of collapse and circulatory depression, coldness of the skin, sweating, palpitations, disturbances of the pulse, superficial breathing, cyanosis, dullness of intellect or total unconsciousness, followed in case of recovery by persistent muscular weakness. In cases in which doses too small to produce these effects are taken for a considerable period of time, susceptible persons may show extreme cyanosis, with very little evidence of injury to the circulatory apparatus. In both forms, particularly in the more chronic ones characterized by severe cyanosis, there is a most disastrous effect on the red corpuscles. Their hemoglobin is in part converted into methemoglobin and thus rendered incapable of performing its function of carrying oxygen. The destruction of red corpuscles may result in an anemia of a most severe type.

It is a common practice to "guard" the action of acetanilid in headache powders by the addition of substances like camphor or caffein designed to act as cardiac stimulants. It is conceivable that they might have some effect in preventing the acute collapse, but it is difficult to see how they could have the slightest effect in preventing the conversion of hemoglobin to methemoglobin.

Our attention was called to this subject by two cases, in both of which the popular remedy "Nervease" had been taken for the cure of headache, and which are reported in full as follows. The first occurred in the service of Dr. Larrabee:

CASE 1.—A married woman of 43 was seen in the out-patient department of the Boston City Hospital. She gave a long history of aural sepsis, beginning at the age of 6 years. She had suffered from occipital headaches as long as she could remember. In 1901 these became much worse and in 1903 she came to the hospital complaining of this symptom and of vomiting and constipation. Notes made at the time record a palpable enlargement of the spleen and enlargements of the lymph nodes in the neck and left axilla. There was a moderate leucocytosis and the hemoglobin was 60 per cent. The glands afterward suppurated. They were probably the result of the aural disease. Shortly after, Dr. G. A. Leland operated for mastoid necrosis. Though the operation was successful and recovery was prompt the headaches were not wholly relieved.

In January, 1905, two years later, she returned to the hospital. For years she had been taking a proprietary headache powder sold under the name of "Nervease"—often as many as six powders a day, and sometimes even a whole box of ten. At first these gave relief to the pain, but for three weeks the headache had been unusually severe and there had been some nausea. The urine had been red in color and there was slight dyspnea—not enough to be at all disabling. She knew she was blue, but the fact had not appealed to her as indicating anything out of the way. Her appearance on the cold day when she first presented herself for treatment was most astonishing. The color was a deep, dusky blue. The lips and nails were at times almost black. In spite of this her general condition was perfectly good and there was no evidence of dyspnea or suffering. The pulse and respirations were not increased in rapidity. Apart from an easily palpable spleen, nothing further was found on physical examination. Dr. Leland examined her ears and reported that no active disease was present.

The blood was almost black as it flowed from the ear, and when spread on the filter paper the color was such that the hemoglobin could not be estimated by the Tallquist method. The specific gravity by the method of Hammerschlag was 1052 corresponding to a hemoglobin percentage of 70. Red corpuscles, 3,168,000. White corpuscles, 6,400. A differential count of 500 white corpuscles resulted as follows:

| | Per cent. |
|---|---|
| Polymorphonuclear neutrophiles | 75.0 |
| Small mononuclear basophiles (lymphocytes) | 19.0 |
| Large basophiles (large mononuclear and transitionals) | 4.8 |
| Eosinophiles | 0 |
| Mast cells | 0.4 |
| Myelocytes | 0.2 |

During this count one nucleated red was seen, a normoblast. There was slight polychromatophilia and rare basic stippling. The reds varied much in size and shape. Many were broken and distorted. There was moderate achromia and the hemoglobin appeared unusually irregular in its distribution within the cells. There were no parasites. No abnormalities were noted in the platelets.

Spectroscopic examination of the blood showed methemoglobin.

The urine was normal except for an excess of urobilin; it contained no hemoglobin, methemoglobin nor hematoporphyrin.

She was directed to stop taking the powders and potassium bromid was given instead. She was also given a capsule containing five grains of mass of ferrous carbonate and one-sixth of a grain of extract of nux vomica, three times daily. Also ten grains of potassium iodid three times daily. Three weeks later there was little or no cyanosis or headache. The color of the blood was normal.

Nearly a year later she returned to the clinic, stating that for several months the headaches had again become severe and that she had had pain and swelling in the left ear. For a fortnight she had been using "Nervease" again, never more than two powders daily. The cyanosis had promptly returned, but, save for slight dyspnea, no other unfavorable symptom had accompanied it. The ear was examined by Dr. Leland, who found no active disease. The skin showed the same blue color as before, but to a much slighter degree. The spleen was enlarged.

The hemoglobin could not be estimated by the older colorimetric methods for the same reason as before. By the Sahli test there was no difficulty, the percentage being 81. Red corpuscles, 3,808,000. White corpuscles, 10,500. A differential count of 500 wh..e corpuscles resulted as follows:

| | Per cent. |
|---|---|
| Polymorphonuclear neutrophiles | 72.6 |
| Small mononuclear basophiles (lymphocytes) | 22.0 |
| Large basophiles (large mononuclears and transitionals) | 4.0 |
| Eosinophiles | 0 |
| Mast cells | 1.4 |

There were no nucleated reds. The qualitative changes were

* From the Medical Chemistry Laboratory of Tufts College.

about the same as before, but decidedly less severe. The spectroscope again showed methemoglobinemia.

The second case occurred in the practice of Dr. John Warren Achorn:

CASE 2.—The patient, a female, unmarried, dressmaker, complained of headache on the top of her head for which she had been taking six "Nervease" powders daily. She complained of loss of energy and nausea, though she had not vomited. She also said that the night before coming under observation she had taken the contents of one box or ten powders. The patient was livid with dark blue nails. The pulse was tense and hard. The blood contained methemoglobin. The red blood corpuscles amounted to 3,991,000, the whites to 9,855. Hemoglobin could not be estimated by the common color tests on account of the peculiar chocolate shade of the blood. A differential count of 200 leucocytes showed:

| | Per cent. |
|---|---|
| Polymorphonuclear neutrophiles | 62.5 |
| Small mononuclear basophiles | 19.0 |
| Large basophiles | 15.0 |
| Eosinophiles | 3.5 |
| Mast cells | 0 |
| Myelocytes | 0 |

A very few granular red corpuscles were found.

The use of the powders was stopped and the patient rapidly regained her health.

As the symptoms of both these cases were plainly attributable to the "Nervease," our next efforts were directed to the determination of the character of the deleterious ingredients in the remedy. Samples from two boxes were analyzed, the first bought Jan. 14, 1905, the second Jan. 31, 1906. The powders weigh approximately 0.5 gram; the substance is pink in color with small glistening granules scattered through it, and has a pungent taste. It is but slightly soluble in water. This description applies only to the powders purchased in January, 1905; those bought in January, 1906, have camphor added, which is discernible not only by odor but by chemical tests. On heating with hydrochloric acid and the subsequent addition of phenol and hypochlorite of calcium, both samples gave a red color, which subsequently changed to blue on the addition of ammonia. This is a positive test for acetanilid. A powder of each was then extracted with water acidulated with hydrochloric acid, which separated it from the camphor in the second box, and the solution extracted with chloroform, which was then evaporated and the residue weighed. It was absolutely colorless and showed nothing but glistening crystals.

The average of two determinations of the acetanilid in this manner gave 0.281 gram, the difference between the samples purchased in 1905 and in 1906 being inconsiderable. As the dose is given as from 0.2 to 0.8 gram, with the maximum for twenty-four hours 1.3 grams, we can plainly see that the second patient, according to this, was taking 1.686 grams daily, and in one night had taken 2.81 grams of this substance. Yet in the circular accompanying the box we read: "Contains no opiate and is *perfectly harmless.*" The camphor in the second sample was extracted from the residue from which the acetanilid had been removed with alcohol and found to amount to 0.075 gram. The ordinary dose of camphor is from 0.13 to 0.65 gram, with a maximum daily amount of 1.3 gram, so that the danger from camphor is not great.

The lesson is that drugs of this dangerous character should not be dispensed except on a physician's prescription, and their sale should be as strictly guarded as is that of strychnia or aconite. The use of a danger label would throw the responsibility of an overdose wholly on the patient. The German government limits the character of the ingredients which may enter a headache powder openly sold to the public to harmless substances, like bicarbonate of soda and caffein, and it seems that the time has arrived when this country should do likewise. The least that can be demanded of manufacturers of nostrums is that they state plainly on the label the ingredients of their preparation and the amount of each. Surely they should not be permitted to label "perfectly harmless" a box of powders containing a drug so powerful for harm as acetanilid.

## A SIMPLIFICATION OF THE USUAL TECHNIC OF SKIN GRAFTING.*

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In several forms of minor surgical work considerable satisfaction is obtainable even when comparatively careless methods are pursued. However, in the particular field of this subject a minutely planned and carefully carried out technic is essential to a successful issue.

The need for repairs to the epithelial covering may arise from the following causes: deep burns, lacerated wounds, the sloughing of flaps, gangrene from frost bite and other causes, varicose and other ulcers, the correction of deformities and the excision of malignant growths. Bared areas can only cover themselves by the reproduction of epithelium around the edges. After a varying length of time, dependent somewhat on the individual case, this border-line epithelium becomes apparently entirely exhausted and ceases to reproduce itself further. Then Nature must be assisted. Indeed, it is not usually best to wait until she has thrown up the sponge.

Unless the denuded area is quite large, it is usually most convenient to take the grafts from the individual needing them. Inasmuch as molecular life persists for some time after somatic death, one can often get about a hospital a suitable material from amputations and other operations. The skin and underlying tissue can be kept in warm normal saline solution for several hours until needed. The skin of the white when grafted on to the negro in time assumes the coloring of its host, and the reverse obtains when the skin of the black is transplanted to the white. Frogs, chickens and pigs have loaned their integument to man with very good grace. Once I grafted skin from a common water lizard on the foot of an Italian with a fair measure of success. The skin of the anterior portion of the arm or thigh is of suitable character for this work and from its location is very accessible. Especially when the defect to be covered is on a limb it is usually advantageous to take the grafts from a nearby location.

Among the many methods in vogue for securing a clean granulating site I have found the bi-daily wet dressing of gauze (wet with chloral hydrate, grs. ii to the ounce of water) kept covered with oiled silk to be satisfactory.

In my work I use the Thiersch graft. I have the part from which the shavings are to be taken carefully cleansed with liquid antiseptic soap, gauze pad, warm sterile water and alcohol. The granulations are irrigated with hot saline solution and the surface is freshened by a very gentle rubbing with an ordinary sterile nail brush. This freshens the granulations without destroying them. Some time since I abandoned the curette for this purpose. With it smooth and even freshening is an impossibility. It tears off the granulations *in toto* and leaves an irregular surface having an

* Read before the Kanawha Medical Society, Charleston, W. Va., Feb. 20, 1906.

insufficient vascular supply for the securing of certain takes. The freshening of the surface by gentle rubbing with a gauze pad, as suggested by Lauenstein, I have tried in several cases; where the granulations are comparatively tender this method is quite effective, but if the granulations are firm I always resort to the use of the nail brush. Hot saline solution and pressure quickly control the slight hemorrhage. A sharp aseptic metal-handled razor should be used. The skin of the part from which the grafts are to be taken is made tense by grasping with the hand. The grafts are sliced off by sawing movements of the razor. I try to have them half the thickness of the skin, half an inch wide and one and one-half inches long, that size being convenient to handle and satisfactory for most cases. As soon as a graft is severed it is turned over the end of the left index finger, skin side next to the finger, carried directly to the denuded site and pressed down on the surface with the finger, a small probe serves to smooth and straighten it out in the position in which it is desired to remain. This process is repeated until the bare area is covered. By the direct transference of the skin strips you will be able to cut them more nearly in proper size, shape and number and the proportion of takes will be larger. I have the surface from which the grafts are taken, dry and transfer them without the intervention of any saline or other solution, which, I believe, only serves the purpose of rendering a delicate piece of work more difficult.

I cover the grafted site with thin dental rubber dam, criss-crossed for drainage if the area is large. I place a small gauze pad over this, securely anchor it on all sides with narrow strips of zinc oxid adhesive plaster to prevent the displacement of the grafts and apply externally a cotton, gauze and bandage dressing. Frequently it will be well to apply a splint or to encase the part in plaster-of-Paris to secure immobilization. In case the grafted locality is on a limb I have it placed on a level with the rest of the body or slightly elevated. A slight degree of pressure will keep the grafts in contact with the part, prevent serum from collecting between the graft and the wound and prevent bleeding. Too much pressure will promptly kill the grafts.

At one time we were taught to keep our skin graft dressings wet with physiologic saline solution. Being valuable for some things, it was supposed to be useful for everything. I discontinued it as being exceedingly troublesome and totally devoid of value for this purpose and began using sterile vaselin and petrolatum as lubricants to prevent the dressings from becoming adherent. Later I adopted the plain dry dressing previously described and have used it for some time without having cause for regret. It possesses the advantages of simplicity and neatness. It lessens the trouble of after care. If the dressing should become adherent it can be easily loosened by soaking it in warm water and removed without disturbing the new epithelium. Ordinarily I leave the first dressing on for a week, and after that the wound often requires but little care. Pus infection in these cases is almost fatal to success and must be guarded against.

I have practiced my method in twenty-three cases without a single complete failure. I have used it principally in the repair of defects caused by burns and lacerated wounds.

In conclusion, I desire to emphasize the advantages of the direct transference of grafts; the substitution of the nail brush for the curette, and the superiority of the dry dressing moored in place by adhesive strips.

## THE RATIONAL TREATMENT OF URETHRITIS.*

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DETROIT.

The rational treatment of this affection depends on the etiologic factors that are responsible for its causation. The non-specific forms demand an entirely different regimen than the specific variety. We must endeavor in all cases to eliminate the cause so far as possible. To dwell at length on the treatment of the various types of the malady under discussion would require more time and space than has been allotted to me. Suffice to state, however, that urethritis dependent on certain dyscrasiæ and diatheses must receive their adequate consideration before we can expect favorable results. To treat any given case of urethritis merely with a hand injection and the internal exhibition of some nondescript "urinary antiseptic," without having recourse to physical, urinary and microscopic examination, if necessary, is just as absurd as to treat the symptoms of a febrile disorder, without taking cognizance of the specific elements which may have precipitated the fever.

Of greater interest to the physician, however, is the treatment of the *gonococcic type* of the disease. Concerning the so-called "aborative plan" the author has nothing good to say. It is an inappropriate procedure and should be condemned by every scientific physician. To destroy the gonococci would necessitate the use of powerful germicidal agents, which undoubtedly injure the intact urethral mucosa and hence are conducive not only to increased suffering, but also to appreciable solutions of continuity therein, damage the canal permanently and eventuate in stricture formation. Its irrationality is apparent at a glance and need not be dilated on. The conservative school of the profession advocates the "expectant plan" of treatment, contending that a gonococcic urethritis is a self-limited affection, uninfluenced by interference of any kind. This is a very reprehensible conception of the real pathology of the malady, is far from scientific and may at times lead to unfavorable sequelæ and not infrequently prolong the duration of the disease indefinitely. This plan is of doubtful propriety and deserves to be ignored as an irrational mode of treatment. Not less reprehensible and still more ridiculous are the remedies in vogue at present, obsolete and obscure methods that have come down to us as a heritage of barbarism or witchcraft from the latter part of the medieval past. I can not refrain from disparaging their employment and shall prove the inefficiency of their highly vaulted therapeutic activity. Their name is legion and to enumerate them all would require a special chapter to be written in the histories of medicine now extant. Prominently among them figure the "alkaline diuretics." The theory is pretty much prevalent, that alkalies, when ingested are absorbed into the circulation and neutralize the normal urine by rendering it alkaline, thus alleviating pain and ardor urinæ, two harrassing symptoms of the acute stage of this disease, simultaneously acting as mild urinary antiseptics. This theory contains much that is futile. When alkalies are absorbed, their identity is completely destroyed as far as the acid radicle is concerned; they are ultimately converted into normal chlorids or salines and not carbon-

* Read before the Wayne County (Mich.) Medical Society, Feb. 26, 1906.

ates, which are known to possess diuretic properties; it is only by the latter virtue that they exercise a beneficial effect on the inflamed urethra, not, however, primarily as alkalies, but as diluents and diuretics. This assertion may not conform to established orthodox doctrines or theories pertaining to this particular phase of the subject, and I, therefore, anticipate being relentlessly criticised for it.

The therapeutic value of boric acid and salol, either alone or in combination which are administered thoughtlessly as a routine measure, with the expectation of disinfecting the urethral tract, is likewise doubtful. The various balsamics, as copaiba, santal oil, gurjun and the oleoresin of cubeb, must be mentioned in order to be condemned not alone as nauseating and repugnant substances, but utterly devoid of benefit in this disease. It is unreasonable to believe that a drug ingested and acted on by the different digestive ferments and fluids found in the gastrointestinal canal, after being absorbed in a modified and chemically altered form, and after being oxidized and in turn converted into simpler products, should act as efficaciously on the urinary passages, as *in vitro* in the chemical and bacteriologic laboratories. The presumably beneficial effects of those remedies as witnessed in practice, are not due to their inherent specific properties, but rather to the intake of large draughts of water proverbially following these antiblennorrhagics, which act not merely as a diuretic, but also as a detergent and diluent, thus allaying painful urination, mitigating as the urinary tenesmus and indirectly acting as a mild antiseptic by virtue of the saline constituents it usually contains.

### TREATMENT OF ACUTE STAGE.

The most rational method of treatment of the acute stage of gonococcic urethritis is irrigation, as first introduced by Janet, of France, and extensively used and elaborated in this country by Dr. F. Valentine, of New York. I have, however, utilized a procedure, which for lack of an adequate terminology I have designated the modified Valentine's treatment, and which I will attempt to outline in the subjoined paragraphs. With this method the average duration of an acute urethritis should not exceed three weeks, provided the patient presents himself for treatment within the first three or four days after the entrance of the acute manifestations and his urethra has not been impaired by the previous existence of the same trouble, i. e., provided the patient has contracted this affection for the first time. Recurrent attacks of this disease render it less amenable to this form of treatment and may prove very intractable.

The patient is told to drink plenty of water, and if he be fastidious, he may partake of some of the so-called mineral waters with which the market is teeming, or he may use some of the mildly acidulous beverages, which are abundantly dispensed in confectionaries. All alcoholic and malt beverages must be interdicted, as well as tea and coffee. Condiments of any sort, highly seasoned dishes and nitrogenous foods must be temporarily avoided. Soups are too stimulating and should be taken of sparingly. The anterior urethra is flushed with a normal saline solution by means of the Valentine douche or a similarly devised apparatus with a good valve attachment to regulate the flow. Not more than three pounds pressure should be allowed, or what is the same, the apparatus should not be elevated higher than six feet. A soft rubber catheter encircles loosely the root of the penis, or what is preferable, the fingers of the left hand of the operator gently press the penis at its root, while the right hand munipulates the valve. The latter should be of such a construction so as effectively to regulate the current, which should be continuous and slow. The slight constriction of the root of the penis prevents the fluid from passing the corresponding portion of the urethra and being propelled into the deeper portions of the canal, a very undesirable feature which should be zealously guarded against. The infectious agent during the acute stage is confined to the first two or three inches of the urethra. By allowing a steady stream of normal saline solution to come in contact with the mucosa for about four or five minutes, it not only frees it from detritus and quantities of accumulated pus, but greater resistance is imparted to the cell as well, preventing the extension of the process and at the same time acting as a mild disinfectant. Thus affected, the meatus is dried and 20 minims of a solution of adrenalin (1:1000) is instilled through an ordinary bulb eyedropper into the canal; the meatus is then compressed and the solution kept there for at least five minutes, after which it is permitted to escape. The suprarenal principle constricts the superficial capillaries and thus removes a prolific source of supply of the pabulum necessary for the multiplication and maintenance of the gonococci, which readily succumb for want of nourishment. Four results are thus achieved with the modified Valentine's treatment, viz.:

1. The removal from the urethra of muco-pus, epithelial débris, etc.
2. Astringent action; constriction of the peripheral vessels and the shutting off of a nutritive supply to the infecting agent.
3. By so doing it acts indirectly as a disinfectant to the urethra.
4. The duration of the affection is decidedly curtailed without endangering the integrity of the urethra.

The effects of the above procedure are very satisfactory, as the discharge is manifestly lessened after a few irrigations, the patient expressing relief from all annoying symptoms. The saline irrigations are continued daily, or what is still better, twice a day, if possible, for ten days, after which period potassium permanganate is substituted in ascending strength, beginning with 1:10,000 and increasing to 1:1,000 by the end of the third week. It will then be noticed that the discharge has come to a standstill and the urethra has been restored to the normal. If there is still a slight serous secretion at times evident at the meatus, we may resort to a prescription composed of zinc sulphate, adrenalin (1:1,000) and colorless fluid extract of hydrastis in distilled water, which, in a short time, will check it completely. Three weeks suffice in the majority of instances to effect a cure, while in favorable cases the disease is brought to an end in ten to fourteen days. This time factor alone bespeaks the advantage of the above treatment as compared with that practiced formerly in a loose, haphazard and empirical manner, when the prognosis as to the time was considered to be from six to eight weeks. This method then has the advantage over the older forms of therapy, that it shortens the duration of the affection, as evidenced by a number of cases on my record book. Specific or gonococcic urethritis under the aforementioned regimen is, therefore, a limitable and abortive disease, and the regimen does not tend to undermine the integrity of the urethral canal, as is commonly the rule with the caustic remedies in vogue during the last two decades, and still used by some under a mistaken conception of the pathology of this disease.

TREATMENT OF THE CHRONIC FORM.

The treatment of the chronic form is more difficult, tedious and complicated than the acute variety, and requires perseverance and patience on part of both physician and patient. Various solutions for injection have been advised, among them the vegetable compounds of silver, alone or in combination with ichthyol and suprarenal principle, either as a hand injection, or, what is still better, applied by the physician himself. We should make it an axiom not to entrust to our patients any mechanical or instrumental method, be it ever so simple. An injection fluid which has found favor with me is a solution of protargol (5 per cent.) together with adrenalin chlorid and Magendie's solution of morphin, if there is tenderness present, with or without hydrastis (the latter in the form of the colorless fluid extract). This is injected either anteriorly, or in case the process has travelled beyond the triangular ligament, which it does in nearly 75 per cent. of cases, through an Ultzman instillator into the posterior urethra. Silver nitrate, which has been extensively used hitherto, has been discarded for the albuminates or nucleates of the same metal, preferably argyrol or protargol. There are cases, however, in which the nitrate acts more favorably than the before-mentioned compounds and is accordingly used by me in preference to them in selected cases. Irrigations with strong solutions of potassium permanganate are likewise useful, either as a recurrent irrigation by the Valentine apparatus, or as a vesicourethral irrigation through a catheter, allowing it to escape by the natural route. Zinc sulphate has also been given a trial and found to be efficacious in those cases where the urethra is the seat of a catarrhal process and where infectious organisms can not be demonstrated microscopically. Ichthyol and belladonna in conjunction have been employed as a retrojection in the chronic form of urethritis. The insertion of sounds for their stimulating effect on the mucosa offers a therapeutic measure of great value, but it is too laxly used by many without knowledge of the indications prompting their employment. As a routine procedure it is not to be advised in all cases. That its intelligent use is followed by marked improvement can not be denied, but as used by some in the unsettled manner already intimated, it must be discouraged. The indications for its use are as follows:

1. In the incipient and formative stages of stricture.
2. In involvement of the posterior urethra without implication of its adnexa.
3. As a powerful stimulant to the urethra in catarrhal conditions affecting its anterior segment, where no gonococci are demonstrable.

The cold sound is the best. It must, however, be thoroughly sterilized with boiling water before insertion and well lubricated to facilitate its passage. The best and most expeditious method of sterilization is to dip the sound in alcohol and immediately ignite it, waiting until it is entirely cool. To be effective the sound must be left *in situ* for at least 10, if not 15, minutes. Various ointments containing minute quantities of ichthyol, silver nitrate and balsam of peru, severally, or in combination, furnish good lubricants, fulfilling a twofold purpose, viz., as an emollient and slightly antiseptic and astringent. Other emollients may be tried if deemed advisable. The introduction of the cupped sound, whereon some ointment of silver nitrate is deposited, is an efficient method in prostatic urethritis of long standing. Our intention is not solely to disinfect the morbid area, but also to stimulate it, e. g., to cause a substitutive inflammation, as well as to dilate the canal. In a number of instances this purpose is readily reached. An acute posterior urethritis, or an exacerbation of the chronic form of greater or less severity is produced. The packing method, recently advanced, must be mentioned in order to advise emphatically against it. Cataphoresis is of doubtful utility, but may be tried. The beneficial results obtained by it are more pronounced in stricture. Massage or centripetal effleurage of the prostate or seminal vesicles per rectum with simultaneous counter pressure by means of a sound in the prostatic portion of the urethra, is a valuable means, but if no improvement be noticed after one week, it should be abandoned as useless.

URETHROSCOPIC TREATMENT.

The most thorough treatment is that afforded by the urethroscope, which reveals not only the actual seat of the trouble, but aids us in the direct application of medicinal agents to the diseased areas. The instrument serves a double purpose: (a) as a means of diagnosis and (b) as a therapeutic auxiliary.

Of course, we must first determine whether the tube can be passed, i. e., whether any bar obstructs its introduction in the form of strictures, polypi, diverticula and other organic obstacles. This ascertained, the posterior urethroscope is passed. The battery is turned on and the field viewed through the fenestrated opening. A great deal of practice is required to differentiate normal from pathologic conditions of the urethra. The possession of a urethroscope means little, to interpret its findings correctly means half of the success gained. It is impossible for me to enter into an exhaustive description of the different states of the urethra, both normal and abnormal, as seen through the fenestra. Long practice and proper recognition of the urethroscopic field are requisite to the correct interpretation of the picture seen. Self-deception and uncertainty may create havoc and thus frustrate our aim. Treatment by the urethroscope is the most rational method of procedure, as applications of divers nature may be made directly to the diseased parts; all ambiguity of treatment and ignorance of the actual existing conditions are thereby thoroughly eliminated. The ordinary slender wooden applicator serves well in urethroscopic work.

The value of internal treatment in chronic gonococcic urethritis is questionable. I have no faith in its efficacy, save for the administration of some urinary sedative after instrumentation, as hyoscyamus, belladonna or urotropin. We can readily dispense with these even if we have our sounds and instruments unscrupulously clean and perfectly sterilized, well lubricated and gently and slowly introduced. No force, except that of a gentle sliding movement, must be used. In patulous canals the sound finds its own way, without much effort on our part.

Treatment also largely depends upon the exact seat of the lesion, which must, in every case, be first determined. The urine must be examined by the three-glass test, to ascertain the probable location of the morbid process; the sound will detect strictures and diverticula, which are by no means so rare as some authorities would suppose. If a stricture is present, its exact side must be made known by the olivary bougie or the bougie a boule. Rectal examination is not merely advisable in some cases, but imperative in nearly all cases of chronic urethritis that come under the physician's observation. Any anomalies of the prostate or seminal vesicles are readily perceived by the palpating finger. Inflammatory states of

these structures, not infrequently give rise to urethrorrhea, which is often mistaken for gleet and unsuccessfully treated for this vague affection. A search must also be instituted for the possible presence of diseased states of the Cowper's glands, as they are equally apt to cause an obstinate urethrorrhea. There is a form of the latter condition that must not be omitted, entitled lacunar urethrorrhea, on account of its being located in the first inch of the urethra, the lacuna magua on the roof of the fossa navicularis, where instruments are not rarely engaged. Again, within the first two inches of the urethra the follicles at its base are more prominent than at other portions of the canal. Folliculitis of the urethral mucosa in its course may induce a muco-purulent discharge. Its exact location must first be discovered prior to the adoption of treatment. A tight meatus is frequently a contributing factor, which must not be overlooked during a urethral examination; the same holds good of a tight prepuce. In the former a meatotomy is indicated before we are enabled to resort to direct medical applications or mechanical interference; in the latter we must have recourse to circumcision. Affections of the bladder, the ureters and pelvis of the kidney or of the kidney itself must attract our attention as possible causes in all ultrachronic cases, where no appreciable cause can be elicited in the urethra and its appendages. Cystoscopy, and if necessary, ureteral catheterization should be performed before definitely arriving at a diagnosis. The possibility of tuberculosis should never be lost sight of. Over-treatment is held to be a potent source for the continuance of a urethral discharge, which ultimately disappears on the discontinuance of injections and instrumentation. Constitutional peculiarities of the individual must also be elicited before beginning treatment, as we are apt to meet with cases that do well on a tonic course of medicine with very little or no topical treatment. In these patients there is depraved health playing an important rôle; either malnutrition, digestive derangements or anemia and other debilitating states may be responsible for the perpetuation of the catarrhal discharge. That these anomalies of the general health must be corrected, goes without saying.

In protracted and persistent cases of posterior urethritis, especially when there is a concomitant prostatic involvement, our last and only resource lies in prostatic drainage, by means of a perineal section. This measure has of late been warmly recommended by some surgeons and the results obtained so far are very promising.

### CONCLUSION.

In conclusion, I desire to remonstrate against the vague, unscrupulous and unscientific way of treatment adopted by some practitioners. The routine method displayed must be objected to by everyone who is cognizant of the gravity of gonococcic urethritis. It must not be slighted, for it is a formidable disease and frequently becomes not only a menace to the individual afflicted with it, but also a source of danger to those who are sexually brought in contact with him, who suffer innocently and whose life may be jeopardized, which is, indeed, very deplorable. It may become constitutional and attack the serous surfaces of the body, damage the delicate mechanism of the renal structure and lead to serious after-effects, immediate or remote. The treatment undertaken by the physician must be in conformity with the most modern principles governing it. The author also wishes austerely to censure and rebuke that faction of practitioners which holds itself aloof and is "too good to treat clap," as they deign to express it. Medicine, fortunately, recognizes no aristocracy; it knows of no elite, creed or caste. The only patricians are those, who by ardent endeavor and indefatigable labor, have helped to assuage the pains and heal the ills of suffering humanity, irrespective of whether the disease has been acquired in a moral or immoral sphere.

166 East High Street.

## LOCAL AND REGIONAL ANESTHESIA IN RECTAL SURGERY.

### A SYNOPSIS OF SEVENTY OPERATIONS.*

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One of the most noteworthy advances in the surgery of the rectum during the past decade consists in the development and perfection of the technic which renders it possible to perform the majority of the operations on this organ under local anesthesia. This possibility will be questioned by some, perhaps disputed by others; but theoretical objections are not entitled to weight in the face of facts to the contrary. During the past year and a half I have called attention to this subject on a number of occasions. As my experience with the method has enlarged, I have become more deeply impressed with its value, and in the light of this experience I wish again to bespeak for it the consideration which its many advantages merit.

I have heard other operators, a very few, however, express different sentiments, but so far as my experience qualifies me to speak, general anesthesia remains the bugbear of modern surgery. Refinements in methods of administration and modification of the agents employed have done much to lessen its dangers and discomforts, but little to diminsh the popular dread with which it is regarded. I would not exaggerate the popular dread alluded to, nor, on the other hand, do I think it right to belittle it. In past years I have known numbers of patients refuse operation entirely because of their fear of chloroform and ether, while, in pleasing contrast, I have more recently had the satisfaction of operating in at least a dozen instances for patients who eagerly sought relief as soon as they learned that general anesthesia might be avoided.

That adequate means of local anesthesia is to-day one of the most conspicious needs of surgery, is evidenced by the eager avidity with which every announcement of a new method or measure is received. Cocain, eucain, stovain and the various other chemicals of that type, ethyl chlorid, scopalamin-morphin, spinal analgesia and even hypnotic suggestion, each met with enthusiastic welcome, only to be followed by disappointment as its limitations became apparent.

While surgery in general has long felt, and still feels, this need, rectal surgery has suffered especially, and from the writer's point of view, peculiarly, by reason of it. This statement is justified by several considerations. Though abundantly innervated throughout, the terminal two inches of the intestinal tract is practically the only portion supplied with sensory nerve fibers, and rather remarkable to say, this same two inches is more frequently the seat of disease than the whole twenty odd feet above it, or indeed, than any corresponding area of the entire body. But important as these diseases are,

* Read before the Tennessee State Medical Association, Memphis, April 11, 1906.

by reason of their frequency and the pain which attends them, they involve no vital structures and in themselves as a class can not be regarded dangerous to life. Again, when we consider the character of the ordinary operations performed on this part, the conclusion is unavoidable that they properly belong to the domain of minor surgery. Yet the road to relief which the surgeon is accustomed to point out to these sufferers usually begins with general anesthesia and ends some weeks later on emerging from the hospital, a routine which only the exigencies of major surgery should justify. It is not strange that the quack should have flourished and fattened in a field which, productive as it is, the regular profession has cultivated so poorly.

I would not be understood as intimating that rectal surgery has no further need for general anesthesia, nor that such an end is very likely to be attained. On the contrary, such operations as resection, excision, complicated fistulas, strictures, etc., ranking, as certain of them do, among the severest known to surgery, will probably always require for their successful performance those conditions which only the profoundest systemic narcosis can furnish. Happily, such operations are comparatively rarely demanded.

What is claimed, however, is that the great majority of the surgical diseases of the rectum are amenable, under analgesic measures locally applied, to radical operative treatment in which nothing of thoroughness is sacrificed and many real advantages gained. Credit for the method which renders this possible is largely due to Dr. S. G. Gant, of New York, not, strictly speaking, for discovering new principles, but rather for recognizing the value of old ones and by painstaking work, perfecting the technic for applying them in the surgery of the rectum.

Briefly, the principle of the method is pressure analgesia and its mode of application, distension of the area to be operated on with sterile water or a weak solution of some analgesic drug, according to the preference of the operator and the indications in the case. Within the past twenty months I have employed the method seventy times in a series of cases including fistula, prolapsus ani, fissure, and external and internal hemorrhoids. After an experience with the old methods covering a period of some ten years, it is not easy to repress enthusiasm in speaking of the results.

The operations performed by this method may be roughly grouped as follows: Internal hemorrhoids, 38; prolapsus ani, 2; fistula, 5; fissure, 9; external hemorrhoids, 16. It is to be understood that in a number of these cases more than one kind of lesion was found and that in such cases all necessary work was done at one sitting. In internal hemorrhoids, perhaps, the method has seemed most noteworthy. After a record of more than three hundred operations for this malady under general anesthesia, I esteem it among the most gratifying of my professional experiences to have been able to perform the radical operation thirty-eight times with the patients lying perfectly passive and in many instances even laughing and chatting as the work progressed. In only two or three cases was there the slightest complaint of pain and these few were among the earliest attempted by this method.

Faith in a surgical method is best demonstrated by the use one makes of it. In the beginning I employed the local anesthesia method with many misgivings, resorting to it only in selected cases and under most favorable conditions. The extent to which confidence in it and myself has grown, appears in the statement that of my last fifty-seven operations on the rectum, general anesthesia was employed in only thirteen. Six times only in the last thirty-one operations for internal hemorrhoids have I used other than local anesthesia and in each of these six cases something more than hemorrhoids was to be dealt with.

In lesions involving the more sensitive areas, such as fissure and external hemorrhoids, the first and chief object is to anesthetize the overlying integument. For this purpose some modification of the technic is desirable. Here the needle is first entered between the layers of the skin itself, and experience has convinced me that a 0.25 to 0.5 per cent. solution of eucain (beta or betalactate) gives better result than the sterile water alone. By the addition of a few drops of adrenalin solution the anesthetic effect may be prolonged and hemorrhage greatly lessened. The momentary pain caused by the first prick of the needle is the only occasion of complaint in these cases.

At the 1905 meeting of the American Proctologic Society, Pennington, of Chicago, and Tuttle, of New York, reported successful attempts to anesthetize the entire anorectal region for the purpose of operation. A few months later the former published a full description of his method,[1] citing twenty cases in which it had been employed. The possibility of completely anesthetizing a given area or portion of the body by blocking its nerve supply has been recognized for a number of years, the work of Crile, of Cleveland, forming the most notable contribution to the subject, at least in this country. All of us have incised phlegmons, amputated fingers, etc., painlessly by cocainizing the nerves proximal to the site of operation. Crile has even reported an interscapulo-thoracic amputation performed by cocainizing the brachial plexus. To apply this principle successfully in the anorectal region requires accurate knowledge of the location and distribution of the nerves supplying it. The chief nerve supply of this region is derived from the inferior hemorrhoidal which is usually a branch of the internal pudic, being given off from it in Alcock's canal and passing inward across the posterior part of the ischiorectal fossa to supply the external sphincter and the overlying integument. In addition, this region is innervated to a greater or less extent, anteriorly by filaments from the perineal branch of the internal pudic, and posteriorly, by the perineal branch of the fourth sacral and cutaneous branches from the coccygeal plexus. To gain complete control of this field it is only necessary that these several nerves be blocked by depositing the anesthetic solution around them by means of a hypodermic needle. As a rule, this may be accomplished through a single puncture in the median line posterior to the anus, by passing the needle first to one side and then to the other and finally infiltrating the area immediately contiguous to the site of the puncture. In the majority of cases no special attention need be paid to the nerve supply from the perineal branch of the internal pudic, though when necessary this area may be effectively dealt with by a separate introduction of the needle anterior to the anus.

The chief advantage claimed for this method is that it renders possible complete divulsion of the sphincter, when this procedure is necessary, either for curative purposes or to gain access to diseased parts. It has the further advantage of permitting the anesthetization to be completed before the operation proper is begun, thus considerably facilitating the latter. I have only once found it necessary to anesthetize the entire ano-

1. American Medicine, July 29, 1905.

rectal region as described above, though I have succeeded a number of times in blocking limited areas for operation on painful lesions involving the anal margin.

A brief recital of the case referred to will perhaps be of interest here:

*Patient.*—On Feb. 27, 1906, I was called to see Mr. J. B., aged 23, whom I found in bed.

*History.*—For several years he had been a sufferer and supposed his trouble was merely the ever-popular "piles."

*Examination.*—I found three well-developed internal hemorrhoids situated well up in the anal canal, an exquisitely painful fissure with its external "sentinel pile," and, as was to be expected, a spasmodic and hypertrophied sphincter.

*Operation.*—I advised the patient that a general anesthetic would be necessary. He consented, but his dread of it was so great that I determined first to attempt the operation by blocking the nerve supply of the entire region. This was done on the following day, after the manner outlined above, with complete success, and with practically no pain. The sphincter was divulsed, the internal hemorrhoids ligated and removed, the fissure curetted and incised, and the "sentinel pile" amputated. The patient left the hospital in six days.

The method is certainly a rational one and I shall not hesitate to resort to it in suitable cases.

Following are some of the advantages which, from personal experience, I feel warranted in claiming for local anesthesia in rectal surgery:

1. It is simple, safe and effective.
2. It eliminates the dangers and discomforts of general anesthesia.
3. Pain at the time of operation is usually absent and always so slight as to be easily borne.
4. Postoperative pain is less by far than after the old methods.
5. Time required for the operation is greatly reduced.
6. Confinement to bed is rendered a matter of expedience, rather than necessity.
7. The period of detention from business is diminished fully one half.
8. Under this method the hospital becomes a convenience and luxury rather than a dreaded essential.
9. It is a thoroughly reliable means of affording relief in many cases which would otherwise be unsuitable for operation.
10. It robs these operations of their terrors and makes it possible to reclaim this work from the hands of the "no knife" advertisers.

I hope I will not be misunderstood if, as a final thought in this connection, I say a word or two of caution. The method is simple, but its successful employment demands thorough familiarity with the anatomy of the rectum and anus, discriminating knowledge of the various types of pathology to which they are subject, and no small degree of operative dexterity. Patients afflicted with anorectal diseases are uniformly, perhaps also peculiarly, nervous and apprehensive, and the very thought of operation is sometimes sufficient seriously to embarass even the most skillful efforts in that direction. An air of confidence, gentleness of manipulation and rapidity of execution are of the utmost importance if success with the method is hoped for.

The field of application of the methods above described is, of course, by no means restricted to the anorectal region. I have repeatedly employed them in minor surgical operations, such as excision of superficial tumors, removal of ingrowing nails, amputation of fingers, etc. I am profoundly convinced that it is a duty we owe our patients to spare them general anesthesia whenever it is possible to do so, and that we should welcome and faithfully test all methods looking to this end.

## THE SPIROCHÆTA PALLIDA (TREPONEMA PALLIDUM) IN SYPHILIS.*

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An immense amount of work has been done in the last eleven months on the etiology of syphilis, work that very probably will mark an epoch in our knowledge of that scourge of the human race. It seems worth while to review briefly what has already been accomplished.

### HISTORICAL REVIEW.

Lassar calls attention to the fact that more than twenty-five causes of syphilis have been described during the last thirty years. As early as 1837, Donné described a parasite found in syphilitic ulcers and named it *Vibrio lineola.* In 1902, Bordet and Gengou found spirochetes in chancres and throat lesions, but discontinued their researches when they did not find the organisms constantly.

Early in 1905 Siegel observed actively motile flagellate bodies in enormous numbers in the blood of several syphilitics and named them *Cytorrhycetes luis.* Schaudinn had earned a reputation in the study of protozoa, malarial parasites, trypanosomes, etc., and he was appointed by the Imperial Board of Health in Berlin to investigate Siegel's work. He called to his aid Hoffmann, an expert syphilologist, and in April, 1905, they published the description of a very delicate spiral organism which they had found in all of 26 cases of primary and secondary syphilis. The *Cytorrhycetes luis* was not mentioned at all in their reports. Since then a few investigators have found it, many have failed, and some say that it must be an artefact.

Schaudinn and Hoffmann named their organisms *Spirochæta pallida,* and a larger one which they found associated with it they called the *Spirochæta refringens.* This has been found only on the surface of syphilitic lesions, in various other ulcerated surfaces and smegma from healthy men and women.

Hoffmann, in one communication, reports finding the pallida constant in over 300 cases of syphilis, and he has never found it in non-syphilitic material.

### LESIONS IN WHICH THE SPIROCHETES HAVE BEEN FOUND.

In the primary sore, the pallida has been found very frequently. Especially in non-ulcerated chancres, and in the upper layers of the lesion there may be very few, so the scraping should be thorough. Many say that the deeper the scraping or section the more the spirochetes. They are also found in the juice from enlarged glands. Smears from mucous patches usually show many pallida, refringens and other spiral organisms, as, e. g., the *Spirochæta Vincenti.* Scrapings and blood from condylomata of the anus and splenic blood show them; but in the peripheral blood of syphilitics with active lesions they are rarely found. Blood and serum from skin lesions occasionally shows the pallida and shows the refringens only when the skin is broken. It has been suggested that the eruption is a true embolic process, the spirochetes being distributed by the blood stream.

The pallida has been found sometimes in enormous numbers, in almost all the organs of congenitally syphilitic children, in macerated fetuses, in a child of 6 and in the fluid of syphilitic bullæ. It is suggestive that the liver, which receives most of the blood coming directly from the placenta, generally contains more spirochetes than any other organ. The pallida has been found in small numbers in the placenta. Pallida and refringens

* Read before the Cooper Science Club, San Francisco, April 2, 1906.

have been found in late secondaries and have been reported found in tertiaries in a very few instances. All the authorities cast doubt on these reports and deny their accuracy, especially when the lesion is ulcerated and the observer inexperienced.

Typical pallida have been found in the primary and secondary lesions in monkeys and apes inoculated from man and from syphilitic monkeys.

Control examinations have been made of material from various venereal and other ulcerating lesions, and most of the observers report not finding the pallida. Kiolomenoglou and von Cube have found in various non-syphilitic lesions, breaking down carcinomata, etc., the pallida, refringens and many atypical forms which can not be classified with either. Schaudinn saw the specimens and admitted the presence of more than two species, but maintained with Hoffmann that all spirochetes found in non-syphilitic conditions can be differentiated from the pallida, either morphologically or tinctorially. Hoffmann has found the refringens in ulcerating carcinoma, and lately Rumpf reports finding spirochetes constantly in carcinoma. He describes these as being coarser and thicker than the pallida, with blunt ends and staining blue with Giemsa. Rosenberger describes many spirochetes in 76 per cent. of specimens taken from the buccal mucous membrane and the tartar of the teeth. Most of these resembled the refringens; some were pale, but a little too thick for the pallida; others resembled the *Spirochæta Vincenti*, and another variety was very delicate, very long, faintly staining and irregular in shape. All had pointed ends. In non-syphilitic lesions, Siebert has seen spirochetes just as delicate as the pallida.

Only the pallida have been found in sections of syphilitic lesions, and it has not been found in sections of carcinomata and other lesions which showed spirochetes in their discharges.

Mercurial treatment does not cause a rapid disappearance of the pallida or the refringens, as was at first reported. Care must be taken that the refringens which only may remain is not mistaken for the pallida.

## CLASSIFICATION.

The question very naturally arises, What is the spirochete and what is its relation to other spiral organisms? The clearest answers to these questions can be found in an article by R. Blanchard.[1] He submits the following classification:

I. SPIROBACTERIA: Vegetable in origin.
  Genera: *Spirosoma*, from nose and mouth.
  *Vibrio*, the comma bacillus, etc.
  *Spirobacillus*.
  *Spirillum*, from stagnant water.

II. TRYPANOSOMIDAE: Protozoa.
  Genera (a) *Spirochæta*.
  Species: *Spirochæta* in stagnant water and tartar of teeth.
  *Spirochæta Obermeieri*.
  *Spirochæta* of African tick fever and possibly of Texas fever and other diseases of this kind.
  *Spirochæta refringens* (Schaudinn, 1905).
  *Spirochæta pallidula* (Castellani) found in parangi or yaws.
  *Spirochæta Vincenti*.
  *Spirochæta* in dysentery.
  *Spirochæta* constantly found in stomachs of dogs.
  *Spirochæta found* in surfaces of ulcerating neoplasms.
  *Spirochæta* in smegma and in ulcers.
  (b) TREPONEMA: (Schaudinn) (syn. *Spirochæta spironema*.)
  Species: *Tr. pallidum* (Schaudinn).
  (c) TRYPANOSOMA:
  Species: *Tr. Gambiense* (Dutton) sleeping sickness. There are many other species usually transmitted by insect bites.
  (d) TRYPANOPLASMA: Four species found in fishes.

## DESCRIPTION OF THE SPIROCHÆTA PALLIDA.

The *Treponema* or *Spirochæta pallida* is described as being extremely delicate, weakly refractile, spiral or corkscrew-shaped, with three to fourteen bends which are more acute than in any other spirochete, resembling the edge of a saw. Both ends are pointed, which is very important to notice, as it will generally enable one to exclude little shreds of elastic tissue which are often beautifully coiled. The length is 4 to 14 mm.; the breadth immeasurable; it has a rotary motion forward and backward, and it may bend slightly in the middle. A vibratile membrane and flagella have been suspected by many, but as yet have not been clearly defined. The ultramicroscope shows segments and what may be a nucleus. Multiplication is by longitudinal division. It is very refractory to stains, and the pink color obtained with Giemsa is supposed to differentiate it from other spirochetes. Metchnikoff and Roux point out that this can not be depended on and cite an instance. They found in the primary sore of a monkey a delicate pallida, typical in all but that it was stained clear blue. They inoculated a chimpanzee from this monkey, and later obtained spirochetes identical morphologically, but staining a pale rose with Giemsa from the same bottle. The writer has seen in a specimen taken from the gums of a non-syphilitic young man with pyorrhea alveolaris delicate spirochetes with long wavy curves which stained pink with Giemsa. Other thicker spirochetes in the specimen were stained blue.

The refringens is thicker, flatter, the curves are fewer and longer; ends may or may not be pointed; it is also motile, bending on its own axis or stretching out into almost a straight rod, and it may be caught by the fixing agent in any irregular position. It is easier to stain than the pallida and takes the blue of Giemsa.

The *Spirochæta pallida* does not pass through an unglazed porcelain filter, and this may explain the findings of Klingmuller and Baermann, who got no results after inoculating themselves with filtered syphilitic virus. Schaudinn placed the pallida with protozoa after studying two parasites found in the blood of the stone owl. These appear in the stomach of the *Culex pipiens* as trypanosomes and spirochetes.

## TECHNIC.

Mucous patches, condylomata, chancres and ulcerating surfaces should first be lightly scraped so as to get a little blood-tinged serum. The scrapings usually show no *S. pallidæ* and may show irregular forms of the refringens. Skin lesions should be well washed with absolute alcohol, a small incision made in the skin and the slide touched only to the drop of blood. Blister fluid may show spirochetes. Flexner finds that the pallida appears only after the vesicant has acted for many hours, and concludes that the spirochetes are not in the lymph spaces or they would appear sooner.

Enlarged glands should be aspirated with a large needle and powerful suction so that small pieces of white gland-substance may be found when the contents of the syringe are washed. These particles may contain spirochetes in enormous numbers. Blood should be taken carefully to avoid contamination from skin lesions and mixed with 10 parts of 0.3 per cent. acetic acid. Centrifugalize, make smears of the sediment and stain. Always make several specimens, as there are often very few organisms and these have a tendency to be all in one place.

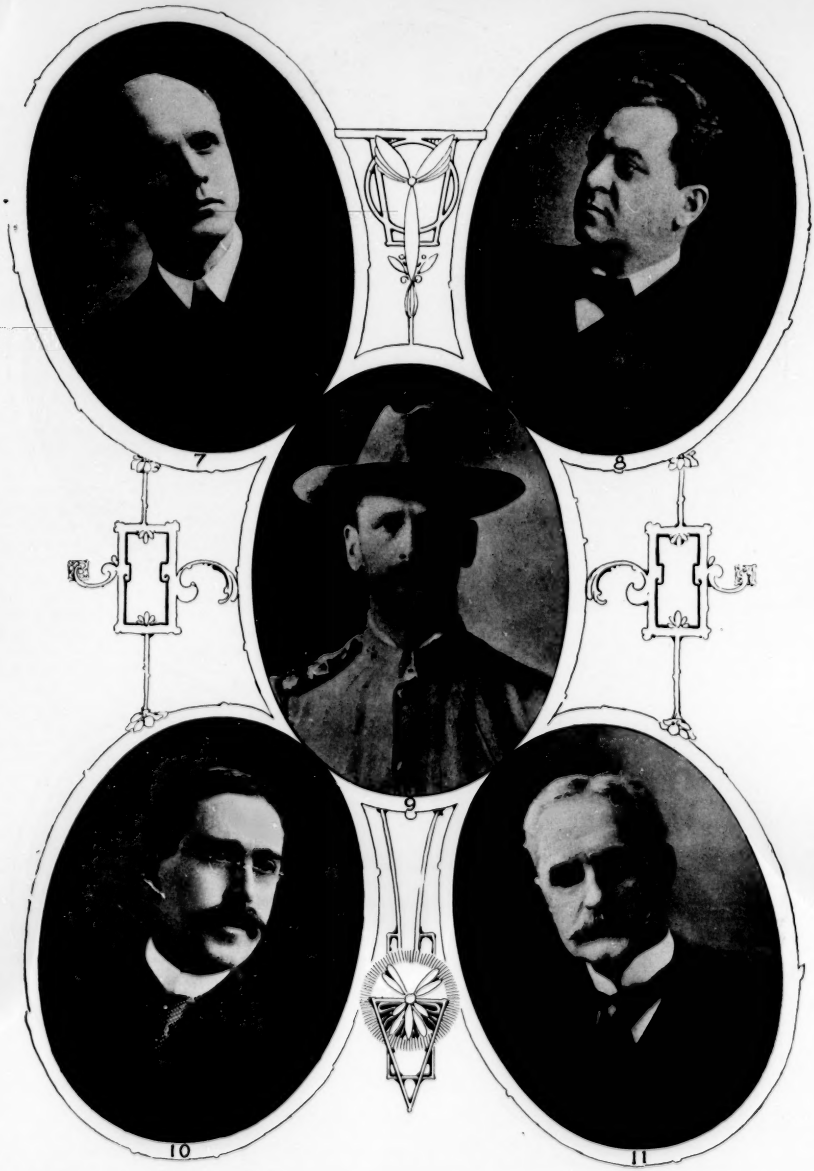
Material to be examined unstained should be mixed immediately with a little normal salt solution and the cover-slip may be sealed. The pallida is very difficult to find this way, and the light must be well regulated. So many stains have demonstrated the pallida that I can not begin to describe them here. The Giemsa or azur stain is the surest and is easily used. The other

1. La Semaine Médicale, Jan. 3, 1906.

# SOME OF THE SECTION OFFICERS.

1.—T. H. WEISENBURG, Philadelphia. Secretary Section on Nervous and Mental Diseases. 2.—WHARTON SINKLER, Philadelphia. Chairman Section on Nervous and Mental Diseases. 3.—WALTER L. BIERRING, Iowa City, Iowa. Secretary Section on Pathology and Physiology. 4.—CHARLES S. BACON, Chicago. Chairman Section on Obstetrics and Diseases of Women. 5.—LEWIS H. TAYLOR, **Wilkesbarre, Pa.** Chairman Section on Ophthalmology. 6.—THOMAS F. REILLY, NEW YORK CITY. Chairman Section on Pharmacology and Therapeutics.

# SOME OF THE SECTION OFFICERS.



7.—W. J. BUTLER, Chicago. Secretary Section on Diseases of Children. 8.—DENSLOW LEWIS, Chicago. Chairman Section on Hygiene and Sanitary Science. 9.—W. SOHIER BRYANT, New York City. Secretary Section on Laryngology and Otology. 10.—W. C. HOLLOPETER, Philadelphia. Chairman Section on Diseases of Children. 11.—ROBERT F. WEIR, New York City. Chairman Section on Surgery and Anatomy.

stains are liable to be erratic, giving good results in one specimen and none in others. The Hastings stain, diluted the same as for blood films and used for 6 to 24 hours, has made the prettiest specimens in my collection; but I generally use the Giemsa in a 1:15 dilution, as its results are more uniform, it acts more quickly and the diluted stain keeps very well. The specimens are first hardened, 5 to 60 minutes, in absolute methyl alcohol and then left in the dilute Giemsa 1 to 15 hours.

Goldhorn uses a stain which acts in a few seconds and is said to give beautiful and uniform results. If this be true, it is the stain *par excellence*, as the searching of the specimens is often so tedious that one would gladly save time in the staining.

The Levaditi stain is probably the best for sections and is a modification of Ramon y Cajal's stain for nerve fibers. Several observers have traced their failures in not finding spirochetes in sections to delay in fixing the tissue. They conclude that a specimen is useless six hours after removal. This agrees with the fact that syphilis is so seldom contracted from fomites and cadavers.

## PERSONAL OBSERVATIONS.

Ten cases of primary, secondary, tertiary and congenital syphilis and 8 controls have come under my observation. The following is a summary of the primary case:

CASE 1 (by courtesy of Dr. Peck).—Patient was a young man with a chancre on sheath of penis, much indurated and covered with a hard crust. This was softened, scraped, and smears showed no spirochetes after long and careful search. This chancre was excised, sectioned and stained by Dr. Oliver and myriads of pallidæ found. This case demonstrates the value of scraping deeply before taking smears.

The following were secondary cases:

CASE 2.—Man, aged 40, had large condylomata around anus. He had had some treatment. Smears from unwashed surface showed many of the refringens type, no pallidæ. Some spirochetes of pallida type were found, but midway in thickness between pallida and refringens.

CASE 3.—Man, aged 30, had extensive condylomata. Smears taken superficially showed many spirochetes of the pallida type; some of the refringens type. Pallida is frequently bent about the middle.

CASE 4.—Boy, aged 18, had very severe infection, condylomata, mucous patches, large tonsils, extensive skin eruption. Superficial scrapings from condylomata showed few of the refringens type; deep scrapings showed many pallida; mucous patches showed as many as six pallidæ in a field. Twenty injections of mereurie chlorid caused no diminution in the number of spirochetes of either type. The tonsils were removed with the guillotine, and juice from the depths contained no spirochetes of any kind. This was after about thirty injections, and it would be interesting to find if mercury causes a disappearance of the pallida in the tissues when it does not affect those on the surface of the body.

CASE 5.—Man, aged 35, had wart-like condylomata around anus. Few spirochetes of the pallida type were in smears. Ulcer at angle of mouth showed spirochetes of the refringens type and mouth spirillæ. This man had treatment for about four months.

CASE 6.—Woman, aged 25, had large chancroids of vulva, which appeared about same time as secondaries from previous infection. Smears showed spirochetes of both types and long, delicate threads, resembling those found in noma. These occasionally seem to have a tendency to form spirals and loops. Mucous patches in the mouth showed spirochetes of both types.

CASE 7. (by courtesy of Dr. Schmoll).—Superficial smears from mucous patches showed myriads of spirochetes of both types and a few spindle-shaped bacteria, described by some writers as associated with spirochetes.

The following is a summary of a late secondary case:

CASE 8 (by courtesy of Dr. Krotoszyner).—Typical punched out leg ulcers appearing two years after the primary sore. One specimen out of six showed a few typical spirochetes of both types. This case shows that one must take several specimens.

The following is a summary of a tertiary case:

CASE 9.—Patient was a woman. There were typical specific ulcers of legs. No spirochetes of any kind found.

The following is a summary of a case of congenital syphilis:

CASE 10 (by courtesy of Dr. Porter).—Infant, aged 4 months. The mother was syphilitic and the child had a mucous patch on tongue and snuffles. Swab from nose showed pallidæ.

The following were control cases:

CASE 11.—Pus was taken from large ulcerating carcinoma of the jaw. There were myriads of spirochetes as delicate as the pallida but irregularly twisted. Some were very long and straightened out into threads with a curve here and there.

CASE 12.—Epithelioma of hand. Discharge showed a very delicate spirochete resembling the pallida.

CASE 13.—Young man with no history or evidence of syphilis had marked pyorrhea alveolaris. Smears from gums showed at least two varieties of spirochetes, one of which resembled the refringens.

CASE 14.—In stomach contents from case of gastric cancer no spirochetes of any kind were found.

Two chancroids, one of penis and the other of the vulva, a vaccination pustule and pus from tubercular sinus showed no spirochetes.

## CONCLUSIONS.

The spirochete was found in 7 out of the 10 cases of undoubted syphilis. Its absence in the smears from the chancres and one condyloma may be due to the smears having been taken too superficially. The tertiary ulcers were entirely negative. This agrees with the findings of other observers. The controls were negative except the carcinoma, epithelioma and pyorrhea alveolaris. These showed what may be several varieties of spirochetes, most of which are very delicate; some as delicate as the pallida, but none of them had the regular sharp bends. Occasionally one is seen which would puzzle an expert. They probably are saprophytes, as they can live in pus. The pallida soon disappears from pus. If the pallida is proved to be the cause of syphilis, doubtful lesions will be examined as sputum is now, but the diagnosis probably will never be as sure, especially in lesions in the mouth, or on the genitalia where other spirochetes are normally found. Even with the circumstantial evidence against the *Spirochæta pallida*, its discovery now in a doubtful skin lesion or genital ulcer would be a good point in the diagnosis. A great deal will depend on the experience of the observer, and to become skilled will take a great deal of time and patience, as the specimens are often few and far between. The *Bacillus lepræ* has been accepted on less evidence than has been brought forward for the *Spirochæta pallida*.

It is dangerous to depend too much on morphology, and it has been suggested that the spirochete is a stage in the life-cycle of a protozoan; perhaps the Siegel flagellate and the *S. refringens* may be another stage of the same organism.

Some of the most significant facts pointing to the pallida being the cause of syphilis are:

1. Its practically constant presence in syphilitic lesions in their various stages.

2. Its constant absence in non-syphilitic lesions, contrary findings being doubted especially when the difficulties in diagnosis are considered; and the fact that the observers are all beginners in this field.

3. Its presence in the organs of congenital syphilitics and in the placenta.

4. The fact that only the pallida has been found in the deep tissues of syphilitics.

5. Its presence in syphilitic monkeys and in the secondaries of apes even after passing the virus through these animals.

6. The retention of syphilitic virus by the unglazed filter, showing that the causative organism is not ultramicroscopic.

7. The presence of most spirochetes in the most infectious lesions.

8. The fact that the *Spirochæta pallida* seems to be morphologically more distinct as a species than the other spiral organisms.

9. The fact that it seems to be more highly differentiated as a parasite and soon disappears when removed from living tissues.

It would seem now that there is some analogy between dourine (mal de Cadéras) and syphilis. The former is a disease of horses and asses met with in the Mediterranean countries, transmitted by coitus and caused by the *Trypanosoma equiperdum*, which can pierce a healthy vaginal mucous membrane.

Much work remains to be done especially in the study of sections where there is not the confusion of secondary infections.

We may hope some day to understand the mysteries of hereditary syphilis.

The pallida has not yet been cultivated, and this is not likely to be easy of accomplishment on account of its marked parasitic tendency. It is significant, however, that the trypanosomes have lately been cultivated on human blood with 5 per cent., each, of sodium citrate and sodium chlorid. When this is done, we may hope for immunizing and curative sera which will cause the name of Schaudinn to be placed with those of Jenner, Behring and Pasteur.

City and County Hospital.

## Special Articles

## THE PHARMACOPEIA AND THE PHYSICIAN.

### CHAPTER XXIII.

### DRUGS ACTING LOCALLY ON THE SKIN AND MUCOUS MEMBRANES.

#### Local Anesthetics and Anodynes.

The introduction of cocain marked a decided advance in the production of local anesthesia.

Previous to that, freezing the part by immersion in a mixture of salt and snow, or shaved ice, or by spraying with ether or other volatile liquid, was used, and while a procedure of this kind does produce complete anesthesia, the pain experienced during the freezing and thawing greatly exceeds that which would be caused by such a simple operation as opening an abscess or the removal of a small foreign body, such as a splinter or piece of glass, when readily accessible. It is because of the inherent dread which the average person has of the surgeon's knife, that he will undergo suffering akin to that with which he is familiar, rather than endure a lesser one which seems dreadful because it is unfamiliar.

It is also true that the injection of cocain sometimes causes more pain than the operation for which it is given would, and, since surgical operations have become so much more common than they were formerly, many adults willingly bear the brief, sharp pain of a simple incision, rather than resort to cocain, which has come into a certain disrepute because of the abuse of it by its victims, the majority of whom have become such through the use of supposedly harmless nostrums pretending to be valuable remedies for hay fever and other minor affections.

Cocain, which is benzoyl ecgonin, shows a certain chemical analogy to atropin and aconitin, which resemble it somewhat in their action on sensory nerves, and it is also related to phenol through the benzoyl group, since benzoic acid differs from phenol only by having a COOH group in place of the OH of the phenol. The anesthetic action of phenol is second only to that of cocain.

Aside from the systemic effect, which we need not fully detail here, cocain paralyzes sensory nerve endings with which it comes in contact and even nerve trunks when in sufficient concentration; if the solution is sufficiently dilute and the action not too long continued, the nerve endings rapidly return to normal (the nerve trunk more slowly), when the application is discontinued and the cocain removed by absorption into the general circulation, or evacuated.

When a fairly strong solution, 3 per cent., is injected into the area about a nerve trunk, or an even weaker solution, 2 per cent., within the nerve sheath, both sensory and motor paralysis occur in about fifteen minutes, affecting, of course, the entire distribution of the nerve; the effect lasting for some hours after intraneural injection.

Since aqueous solutions are not absorbed from the unbroken skin, they must be injected beneath the epidermis, at least, in order that they may come into actual contact with the nerve ends.

When the solution is injected deeply into the muscular tissue the greater part of it passes into the general circulation and is lost so far as local action is concerned. To avoid this, it is better to inject the solution between the layers of the skin, at the same time limiting the circulation in the part as much as possible by compressing the blood vessels, preferably with a rubber band or other tight bandage.

Practically, the same object may be achieved by the use of a solution of the alkaloid of the suprarenal gland immediately preceding the injection of the solution of cocain. The injection of the solution of suprarenal alkaloid (epinephrin, adrenalin or one of the other trade preparations) causes a local vasoconstriction that in turn prevents the rapid absorption of the cocain solution into the general circulation, and also prevents, for the time being, the excessive hemorrhage that is so objectionable in minor operations. When it is necessary for the solution of cocain to diffuse through a part, a moment should elapse after the injection before applying the constricting bandage.

The combined use of suprarenal alkaloid and of cocain has proved to be of particular advantage in the eye and in the nose. One reason, and probably the most weighty one, is to be found in the fact that normal mucous surfaces have a tendency to absorb cocain very rapidly.

When cocain is applied to mucous membranes, either in powder or in solution, it causes its local effects for a short time and is then absorbed, producing its systemic action. Herein lies one of the chief sources of danger of the many so-called hay-fever remedies, which virtually consist of cocain with some diluent powder, such as sugar of milk, and are intended to induce and to continue the truly terrible cocain habit.

Owing to the brief action and rapid absorption, frequent repetition is necessary to secure relief in "colds" and the user is peculiarly liable to become addicted to the habit which, in its baneful effects, is not exceeded perhaps, in the whole range of drug addiction, not even excepting alcoholism. As a matter of fact, many of the so-called hay-fever nostrums are intended primarily for supplying those who are already victims of the habit and who would find difficulty in buying the drug under its real name. This practice may be said to constitute a disgraceful example of the lack of control of the nefarious nostrum traffic by the law.

We should be particularly careful to warn patients and others against the insidiousness of this type of self medication that our skirts may at least be kept clean in connection with this one phase of the evil.

Cocain in solution is readily decomposed on boiling, but if the solution be made with sterile, cold water there will be little cause to anticipate sepsis from its injection, with the usual precautions. The solution may be sterilized, however, by heat-

ing to 80° C. (176 F.) for half an hour at a time on two successive days, care being taken to eliminate all possible contaminations of even a trace of alkali.

Eucain and stovain have the advantage of resisting decomposition by boiling, but, as just suggested, the disadvantage possessed by cocain is more apparent than real, and the general action of cocain, particularly its possible complications, being well known, that drug, no doubt, will continue to hold first place as a local anesthetic, except where the ubiquitous detail man succeeds in frightening more timid members of the profession into an exaggerated idea of the various dangers attending the proper use of the official article, with a corresponding credulousness concerning the entire harmlessness of the particular substitute in which he is interested.

Cocain, when dropped into the eye, or taken internally, causes an incomplete dilatation of the pupil by stimulating the sympathetic nerve reaction to light being maintained, differing therein from atropin, which abolishes this reflex.

### OFFICIAL PREPARATIONS OF COCAIN.

COCAINÆ HYDROCHLORIDUM.—U. S.—Cocain hydrochlorid, the most widely used preparation of cocain, is officially described as the neutral hydrochlorid of an alkaloid obtained from several varieties of coca. It occurs as colorless, transparent crystals of a white crystalline powder. It is soluble in less than one part of cold water and in 2.6 parts of alcohol, but is insoluble in petroleum benzin or in ether.

COCAIN.—U. S.—This is an alkaloid obtained from several varieties of coca, resembling cocain hydrochlorid in many of its properties, but being only slightly (1-600) soluble in water. It is soluble in 5 parts of alcohol and even more soluble in ether or in petroleum benzin. The alkaloid cocain is also soluble in about 12 parts of olive oil and it, or the oleate is to be used in making solutions of cocain in oil.

OLEATUM COCAINÆ.—U.S.—Oleate of cocain contains 5 p. c., by weight, of cocain in a mixture of oleic acid and olive oil.

The liquid preparations of coca, the fluid extract and the wine, are never used externally, although, if applied to the mucous surfaces, or to the abraded skin, their use would not be devoid of danger, from the absorption of the contained cocain, and other coca alkaloids.

Cocain is used locally on mucous membranes to allay irritation and inflammation as in hay fever, but it should be used very guardedly and not be too long continued. It is very much less useful in this condition than was formerly supposed and it has been very largely replaced by the now commonly used alkaloid of the suprarenal gland, which, it is claimed, allays the inflammation equally well and certainly has the marked advantage of not conducing to the possibility of habit formation.

Solution of cocain is very commonly injected hypodermically, to produce local anesthesia during such slight operations as the evacuation of abscesses, the removal of splinters, bullets, and other foreign bodies.

When there is considerable inflammation and extreme tenderness, stronger solutions are required than when a healthy surface is to be incised. In the former case, a syringe having a long, fine needle, is filled with a 4 per cent. solution of cocain hydrochlorid, the needle is then inserted obliquely, or almost parallel with the surface, between the layers of the skin, beyond the zone of increased tenderness, and a small drop of solution is forced beneath the epidermis; a white spot is seen in a moment and the needle is then advanced through that toward the more tender area without removing the point of the needle from beneath the epidermis; with each advance a drop of the solution is injected. When the needle has been passed under the epidermis for its full length, it is withdrawn and the point inserted into the most advanced blanched area; in this way, using a curved needle, a complete circuit may be made of the seat of inflammation. The object of injecting the solution between the layers of the skin is to secure anesthesia with a minimum of absorption into the general circulation.

The psychic effect on the patient of having painless injections made into such an extremely tender region tends to allay the nervous dread of the knife, which is a more important factor, than we, who are accustomed to seeing pain, are apt to realize.

The injection of a solution of cocain into the hand is apt to prove ineffective when the trouble is deep seated, as in palmar abscess, and in such cases it is better to inject a small amount of a 2 or 3 per cent. solution around or into the nerve trunks in the forearm.

The injection of strong solutions into nerve trunks has given rise to much trouble and it is preferable, therefore, to try to secure the effects from weak solutions.

Anesthesia involving all the body below the site of the injection, may be secured by injecting about ten or fifteen minims of a 2 per cent. solution of cocain hydrochlorid into the subarachnoid cavity through a sterilized platinum needle which is inserted at the side of the fourth lumbar vertebra. The patient must be placed in a sitting position, in order that gravity may not favor the passage of the solution up to the medulla.

This method of using cocain (or any other drug), is attended with so much danger that it is not justifiable except when for some reason, general anesthesia is not practicable.

The anesthesia is induced in ten or fifteen minutes, with cocain, but its duration is very variable, lasting from half an hour to five hours.

When the application of a constricting band is not feasible the previous injection of a solution of the suprarenal gland, as previously suggested, will delay the absorption of the solution of cocain into the general circulation. It should be remembered, however, that the use of vasoconstrictor only delays and does not inhibit the absorption of the cocain. When a large amount of the cocain solution is necessary it will probably be preferable to use the infiltration method, as proposed by Schleich. It is difficult here to see what advantage is to be gained by the addition of morphin to a solution that is intended to act locally, instead of directing the injection of the desired amount at once so as to secure its systemic effect. Schleich recommended solutions containing from 0.01 gm. (1/6 grain) to 0.2 gm. (3 grains) of cocain hydrochlorid and from 0.005 gm. (1/12 grain) to 0.025 gm. (½ grain) of morphin hydrochlorid in 100 c.c. (3 fluid ounces) of 0.2 of 1 per cent. solution of sodium chlorid to which was added one-fourth of a drop of phenol.

Strong solutions of cocain should not be used in carious teeth, and only small amounts of the weak solution. One or two drops of a 1 per cent. solution often affords relief from toothache.

Cocain is sometimes applied to hemorrhoids to lessen the pain and it may be said that its local use is much more rational than is that of opium, since the alkaloid morphin has no local analgesic or vasoconstrictor action, a fact to be remembered when prescribing urethral injections, and lotions for inflamed surfaces of the skin.

Cocain has also been used, in small doses, to relieve nausea. It may be given alone or with other antiemetics. The following is an example of a combination with cerium oxalate, the latter being used empirically.

| | | |
|---|---|---|
| R. Cocainæ hydrochloratis ..... | gr. i | 0.06 |
| Cerii oxalas ..... | gr. xvi | 1.0 |
| Aquæ aurant. flor. ..... | f.℥i | 30.0 |

M. Sig.: Shake the mixture and give one teaspoonful every half hour when needed.

Many substitutes for cocain, of greater or less merit, have been brought forward by manufacturers, and while they have been widely heralded as being superior to cocain, they are not free from disadvantages; though the manufacturers have not, as yet, devoted much time or space to the exploitation of these several disadvantages or dangers. Their further consideration, however, does not belong in a treatise on the Pharmacopeia.

### THE ATROPIN GROUP.

Atropin, which has been mentioned among the analgesics, acts locally as an anesthetic, its effects resembling those of cocain, but being weaker.

### OFFICIAL PREPARATIONS.

ATROPINA.—U. S.—Atropin is officially described as an alkaloid obtained from *Atropa Belladonna* and from other plants of the same family. As it occurs in commerce, it is usually contaminated by a small amount of hyoscyamin from which it can not be readily separated.

Atropin is soluble in 450 parts of water and in 1.5 parts of

alcohol. It is very poisonous, the average dose being 0.0004 gm. (1/160 grain), and, therefore, it should be tasted with the utmost caution and only in dilute solution.

ATROPINÆ SULPHAS.—U. S.—This is the sulphate of the alkaloid atropin. In its physiologic properties and dose, atropin sulphate corresponds closely to atropin. It is soluble in less than one part of water and in about four parts of alcohol.

OLEATUM ATROPINÆ.—U. S.—Oleate of atropin is a mixture of equal parts of oleic acid and olive oil containing 2 per cent. of atropin, in solution.

EXTRACTUM BELLADONNÆ FOLIORUM.—U. S.—Extract of belladonna leaves is directed to be made with a menstruum consisting of two parts of alcohol and one part of water, and should contain, when assayed according to the process given in the Pharmacopeia, 1.4 per cent. of mydriatic alkaloids.

UNGUENTUM BELLADONNÆ.—U. S.—Belladonna ointment contains 10 per cent. of extract of belladonna leaves in a mixture of hydrous wool fat and benzoinated lard.

EMPLASTRUM BELLADONNÆ.—U. S.—Belladonna plaster is now directed to be made by mixing 30 parts of extract of belladonna leaves with 70 parts of adhesive plaster, and corresponds closely with the widely used, commerical, rubber-base plasters. It is further directed that spread belladonna plasters should yield, when assayed by the process given in the Pharmacopeia, not less than 0.38 nor more than 0.42 per cent. of mydriatic alkaloids.

FLUIDEXTRACTUM BELLADONNÆ RADICIS.—U. S.—Fluidextract of belladonna root is directed to be made with a mixture containing four parts of alcohol and one part of water, and should yield, when assayed by the process given in the Pharmacopeia, 0.5 per cent. of mydriatic alkaloids from belladonna root.

LINIMENTUM BELLADONNÆ.—U. S.—Belladonna liniment is virtually a solution of five parts of camphor in a sufficient quantity of fluidextract of belladonna root to make 100 parts.

FLUIDEXTRACTUM STRAMONII.—U. S.—This is directed to be made from the leaves of *Datura Stramonium* with a menstruum containing two parts of alcohol and one part of water. The finished fluidextract is required to contain 0.35 per cent. of the mydriatic alkaloids from stramonium.

EXTRACTUM STRAMONII.—U. S.—Extract of stramonium is made by evaporating the fluidextract to the required consistency, and should contain 1.4 per cent. of mydriatic alkaloids.

UNGUENTUM STRAMONII.—U. S.—Stramonium ointment contains 10 per cent. of extract of stramonium in a mixture of hydrous wool fat and benzoinated lard.

Atropin and the extracts of belladonna and of stramonium, in the form of ointments, belladonna plaster and belladonna liniment are very commonly employed as local applications for the relief of the various neuralgias. The members of the atropin group are said to be more efficacious in facial than in other neuralgias, but they are also used for the intercostal variety and for lumbago.

Belladonna plasters are very commonly used, particularly by the laity, for a variety of pains, often serving merely to protect the surface or for the retention of body heat.

Suppositories of extract of belladonna are frequently used with benefit in the treatment of hemorrhoids.

They may be directed somewhat as follows:

| | | | |
|---|---|---|---|
| R. | Extracti belladonnæ ..... fol. grs. i | 0 | 06 |
| | Olei theobromatis ..... 3ii | 8 | 00 |

M. Ft. Suppositoria No. viii.

Sig.: One every four hours, as directed.

Belladonna ointment may be used for the same purpose. It may be directed to be spread on a little cotton which is placed in contact with the piles and they are then replaced in the rectum. If they still tend to protrude a pad of cotton is placed over the anus and held in position by a bandage. For men the bandage may be attached to the suspenders, both back and front, when the severity of the attack is not such as to compel the patients to lie down.

It must be remembered that the extract of belladonna, whether applied as a suppository or ointment, is rapidly absorbed and the amount so used must not exceed the therapeutic dose.

### ACONITE.

Aconite owes its action almost entirely to aconitin, an alkaloid which, like cocain, is composed of a base united to an aromatic acid. Closely resembling aconitin in its local action is veratrin. They both cause irritation when applied to the mucous membrane.

The effect of aconitin when taken by the mouth is very characteristic, the local effect being a tingling and then a disagreeable sensation in the throat which has been variously termed itching or "scratching." Applied to the skin aconitin causes sensory stimulation, which is succeeded by local anesthesia without the production of rubefaction.

Aconitin is much less efficacious than cocain as a local anesthetic, and, of course, its injection is wholly inadmissible, but it is much more useful in the form of a liniment which is to be applied to the unbroken skin, through which aconitin may penetrate to a slight extent.

### OFFICIAL PREPARATIONS CONTAINING ACONITIN.

ACONITINA.—U. S.—An alkaloid obtained from the official aconite, the tuberous root of *Aconitum napellus*. There are a number of closely related species of aconite that contain alkaloids which differ widely in their physiologic action and dose. The now official aconitin is the purified crystalline alkaloid of the official root and should not be confounded with the amorphous alkaloid formerly official or with any one of the more potent alkaloids obtained from other species of aconite.

Aconitin is soluble in 3,200 parts of water and in 22 parts of alcohol. On account of the poisonous character of this alkaloid it should never be tasted, except when in very dilute solution.

Average dose: 0.00015 (0.15 mg. 1/400 grain).

FLUIDEXTRACTUM ACONITI.—U. S.—Fluidextract of aconite is directed to be made from the powdered root of *Aconitum napellus* with a menstruum composed of three parts of alcohol and one part of water. It should contain no less than 0.4 per cent. of aconitin.

TINCTURA ACONITI.—U. S.—This tincture now represents 10 parts of the crude drug, instead of 35 parts, as formerly official. It is made with a menstruum containing 7 parts of alcohol and 3 parts of water, and the finished tincture should contain 0.045 per cent. of aconitin.

## Veratrin.

Somewhat closely related to aconitin, in its various properties and uses, is veratrin, which is official in several well-known forms.

VERATRINA.—U. S.—The official veratrin is a mixture of alkaloids obtained from the seeds of *Asagræa officinalis*. It occurs as a white or a grayish-white amorphous powder that is soluble in about 1,750 parts of water and in 2.2 parts of alcohol.

OLEATUM VERATRINÆ.—U. S.—Oleate of veratrin contains 2 per cent. of veratrin in a mixture of equal parts of oleic acid and olive oil.

UNGUENTUM VERATRINÆ.—U. S.—Veratrin ointment contains 4 parts of veratrin with 6 parts of expressed oil of almonds and 90 parts of benzoinated lard.

### LOCAL USES OF ACONITIN.

Aconitin is sometimes used locally in the form of an ointment (from 1 to 100 to 1 to 500), or in the form of an oleate, made similarly to the official oleates of atropin or of veratrin, of 2 per cent. strength, for the relief of rheumatism and neuralgia. Inasmuch as it is absorbed in these forms from the unbroken skin, and much more rapidly from wounds or mucous membranes, it must be used with caution.

For facial neuralgia it may be prescribed as follows:

| | | | |
|---|---|---|---|
| R. | Aconitini ..... gr. iii | | 20 |
| | Alcohol q. s. to dissolve | | |
| | Adipis ..... 3iv | 15 | |

M. Ft. unguentum. Sig.: Apply a very little of the ointment over the seat of the pain.

The fluidextract of aconite may be further concentrated and used in the form of an ointment, or it or the tincture of aconite may be used as a liniment, applied on cloth, and a hot pad or water bottle laid over the surface.

For muscular rheumatism a liniment composed of equal parts of the tincture, or a corresponding amount of the fluidextract and soap liniment may be rubbed on the surface, or, if desired, this liniment may be further varied by the addition of chloroform liniment, or other alcohol soluble rubefacient in place of the soap liniment.

The following is the formula recommended by Magitot for toothache.

℞. Tincturæ aconiti
Chloroformi, āā.....m. xlv 3
Tincturæ benzoini.....m. cl 10
M. Apply as needed.

**Phenol.**

Phenol, or carbolic acid, has been considered under the subject of antiseptics.

Applied to the skin, pure or in concentrated solution, it causes tingling and some pain with the formation of a white eschar and a rapidly induced partial or complete anesthesia of the part. It is so prone to absorption when weak solutions are used that its usefulness is interfered with to a great extent.

OFFICIAL PREPARATIONS OF PHENOL.

PHENOL.—U. S.—The Acidum Carbolicum of former pharmacopeias occurs as separate needle-shaped crystals or as a white crystalline mass that is soluble in about 20 parts of water, but is freely soluble in alcohol, glycerin or in fixed or volatile oils. Phenol will absorb or dissolve from 15 to 20 per cent. of water, and then occurs as a colorless or slightly reddish liquid.

PHENOL LIQUEFACTUM.—U. S.—Liquefied phenol should contain not less than 86.5 per cent. by weight, of absolute phenol and about 13.6 per cent. by weight of water.

GLYCERITUM PHENOLIS.—U. S.—Glycerite of phenol consists of 20 parts of liquefied phenol and 80 parts of glycerin, by measure.

UNGUENTUM PHENOLIS.—U. S.—Ointment of phenol is now directed to contain 3 per cent. of phenol, in white petrolatum.

Phenol is rarely if ever used for the production of anesthesia preliminary to incising the skin, but, in the form of the glycerite or, preferably, the ointment, it is very useful in allaying the pain of small ulcers and burns. It may momentarily increase the pain, but this is soon followed by lessened sensibility.

It is, of course, obvious that the use of phenol is not permissible where large surfaces are to be treated.

When antisepsis is not of especial importance the ointment is to be preferred, as the continuous application of even comparatively weak aqueous solutions to the extremities has caused gangrene.

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## THE AMERICAN MEDICAL ASSOCIATION.

ITS PURPOSES AND OBJECTS HISTORICALLY CONSIDERED.

In the 59 years which have elapsed since the organization of the American Medical Association a number of changes have been made in the original constitution and in the provisions regarding membership, delegates, etc. As few of the present members of the Association know the history of the development of the Association we have thought it advisable to consider them under the heads of the various points involved. We shall, therefore, first discuss the question of membership, later taking up matters relating to qualifications and election of delegates and the relations of county, state and national organizations to each other, as well as some historical points regarding the attitude of the Association toward medical education, proprietary medicines, medical registers, etc.

MEMBERSHIP.

The original plan of organization as adopted in 1847 provided that "members of the American Medical Association . . . should hold their appointment to membership either as delegates from local institutions, as members by invitation, or as permanent members." There are thus created three classes of membership, of which the delegates constituted the bulk and the most important part. They received their appointment from "permanently organized societies, medical colleges, hospitals, lunatic asylums, and other permanently organized medical institutions of good standing." Each appointment was for one year. The basis of representation was one delegate for every 10 regular resident members of the medical society, two for every regularly constituted and chartered school of medicine, two for every hospital containing 100 inmates or more, and one for all permanently organized medical institutions of good standing not included in the above summary. In order to admit of representation from portions of the United States not otherwise represented provision was made for members by invitation. If a physician from sections of the country in which no medical institutions of any sort existed attended an annual session, the Association could constitute him a member by invitation for that session only. He thus became an unofficial delegate for a section that would otherwise be without representation. Thus two classes of members, both, as will be seen, of a purely temporary character and deriving their right of membership either from the organization which they represented, or from the Association which invited them to a seat in its deliberations, constituted the voting membership of the American Medical Association. In order that delegates having once been members of the Association might retain some connection with it after their time as delegates had expired, it was provided that all those who had served in that capacity and such other members as might be appointed by the Association, by unanimous vote, might be made "permanent members." They were entitled to attend the meetings and to participate in the affairs of the Association, without the right to vote. It was, therefore, recognized from the time of the first preliminary convention in 1846, that the right to vote should be limited to the duly elected and qualified delegates of local medical societies, colleges and hospitals, who came bearing credentials of their election as such.

It is evident that by 1850 the provisions regarding members by invitation were being somewhat abused and that many men were proposed at each meeting who, it was thought, were not entitled to this distinction, inasmuch as Dr. Ware of Massachusetts, at the third annual session at Cincinnati, offered a resolution providing for the appointment of a committee, on the first day of each session, to which should be referred all nominations for membership by invitation. At the same session Dr. Hooker of Connecticut and Dr. Evans of Kentucky offered resolutions providing for the repeal of the section of the Constitution relating to members by invitation.

The year following, 1851, at the Charleston session, a minority report was brought in from the committee on amendments of the Constitution, recommending that permanent members be allowed the privilege of voting. According to the official minutes, "the vote being then taken on allowing permanent members the right of voting, it was lost by a large majority."

It will thus be seen that the principle was recognized and steadfastly adhered to from the beginning, that the Association was a delegated body, representing societies in affiliation. No further change of any importance was made until the session of 1869, at New Orleans, at which an amendment was adopted which emphasized the fact that continued membership in a county or state society, where one existed, was essential for eligibility to membership in the American Medical Association, and that continued membership in local societies was necessary for continued membership in the American Medical Association. This applied to permanent members, as well as to delegates and members by invitation.

THE CONSTITUTION REVISED.

In 1874, at the twenty-fifth session at Detroit, Dr. N. S. Davis submitted a report from the committee on revision of the Constitution, which was adopted. The clause regarding delegates, as recommended, provided only for delegates from "permanently organized state medical societies and such county and district medical societies as are recognized by representation in their respective state society and from the medical department of the Army and Navy of the United States."

Later on the United States Marine-Hospital Service was given representation on the same basis as the Army and Navy.

It will thus be seen that the American Medical Association was, from the very moment of its organization, a delegated

body; that only properly elected delegates with credentials from the bodies which they represented were entitled to vote, and that the Association repeatedly refused the privilege of voting to any others except delegates.

In 1881 provision was made for a fourth class of members, viz., members by application. It was provided that members of state or county societies certified to be in good standing by the president and secretary of said society, might make application for admission as members by application. Such members were entitled to receive THE JOURNAL and to attend annual sessions, but without the right to vote. (JOURNAL of the A. M. A., Vol ii, 1884, page 702.)

These provisions regarding membership remained in force up to the St. Paul session, in 1901, at which time the committee on reorganization, appointed the previous year, brought in its report, which was adopted at this session. No change of any importance was made, so far as the provisions regarding membership were concerned, except that county and district societies were now united to form state societies, which were the only ones recognized by the American Medical Association. To-day, as always, membership in an "affiliated" society is required for membership in the American Medical Association. Members of county and state societies do not and never have voted directly, but solely through their duly elected representatives. Two changes were made by the new Constitution adopted at the St. Paul meeting, one being to change the basis of representation from one delegate to every 10 members, to that of one delegate to every 500 members. This change was found necessary on account of the enormous increase in membership, in order to reduce the number who sat as delegates to such a size as would make efficient work possible. Previous to the St. Paul session the proportion of delegates to members was so large that practically every one attending the meeting could and did go as a delegate. The revision of the Constitution reduced the number of delegates to 150, leaving the bulk of the members free to attend the scientific and social features of the session. The other change made was giving this delegated body the specific name by which it is now known, viz., the House of Delegates of the American Medical Association.

It will, therefore, be seen that historically the House of Delegates is the legitimate successor and direct outgrowth of the delegated body known as the American Medical Association.

### BODIES ENTITLED TO REPRESENTATION.

Closely related to the matter of membership is that of the bodies entitled to send delegates to the annual sessions of the American Medical Association. In February, 1846, the following resolution was adopted by the Medical Society of the State of New York, the body which issued the call for the preliminary convention: "Resolved, That the preamble and resolutions passed by this society at its annual session, Feb. 6, 1845, did not contemplate the appointment of delegates to the national convention by county or merely local societies in these states, where delegates are appointed by a regularly organized state society." (Proceedings, vol. i, pp. 9-10.) The principle is here clearly recognized that the Association consisted of delegates appointed by state societies, and that delegates from county or district societies were only to be admitted in such states as had no regularly organized state society.

In the first Constitution adopted, as has been seen, it was provided that the American Medical Association should consist of duly elected delegates from medical societies, medical colleges, hospitals and insane asylums. In 1874 representation from hospitals and asylums was abolished. In 1872 the adoption of a new Constitution abolished delegates from medical colleges and provided for delegates from medical societies alone, with the exception of a representative of the medical service of the United States Army and the United States Navy. Later on a representative from the Marine-Hospital Service was added.

### SUMMARY.

Summarizing the history of the American Medical Association for the last 59 years, we note: 1. The American Medical Association was from the beginning and always has been a delegated body. 2. Primarily only those persons elected as delegates could become members. Various classes of membership were gradually added, for the reasons enumerated above. Up to the time of the establishment of THE JOURNAL, the only way in which membership could be obtained was by attending an annual session of the Association, either as a delegate or by being elected as a member by invitation. 3. Membership by application was devised to allow members of county and state societies to become members of the American Medical Association without being elected a delegate, or attending an annual session of the Association. 4. The original basis for delegates was one to every 10 members of a state or local society; the present basis is one to every 500 members. With more than 50,000 members of constituent state associations as at present, the House of Delegates on the old basis might include 5,000 members, a number so large as to make the transaction of business absolutely impossible. It is now limited by the Constitution to 150 members, of whom 15 represent the sections and government services. Whenever the number of delegates exceeds this number a reapportionment on a different basis is provided for.

### OTHER LINES OF WORK.

The American Medical Association was organized primarily for the purpose of raising the standard of medical education. This question and the relation of the Association to medical schools was discussed at nearly every session of the Association. In 1847, when the Association was organized, there was not a single licensing or examining board in existence in any state in the Union. A diploma from a medical college carried with it the license to practice medicine. It is to the credit of Dr. N. S. Davis that he persistently fought for the establishment of the principle that the licensing body which confers legal right to practice medicine should be entirely and absolutely divorced from the educating or degree-giving body. This question came up every year and resolutions were repeatedly adopted asking different state societies and members of the Association to work for the enactment of a law in every state providing for the organization of a licensing board which should examine all candidates for the right to practice medicine, or at least pass on diplomas presented by them. It is not too much to say that the influence of the American Medical Association more than any other one factor has been responsible for our present system of state examining boards and licensing bodies.

### MEDICAL COLLEGES.

Regarding medical colleges themselves, efforts on the part of the Association to improve them extends over practically the entire existence of the Association, and would require too much time for detailed presentation. It is sufficient to say at this time that the Association has continuously and persistently worked for two things: First, the raising of the standard for admission in medical colleges, in other words, the improvement of preliminary education; and, second, the betterment of the courses offered to medical students. Owing to the lack of effective organization up to a short time ago, the work of the Association had been largely limited to the adoption of resolutions and the exercise of personal influence. The Council on Medical Education established recently by the House of Delegates is the first real effective measure inaugurated. It is hoped that it will be able to undertake positive reformatory work along the lines of medical education.

### PHARMACEUTICAL REFORMS.

On account of the prominence that has been given in the last year to the work of the Council on Pharmacy and Chemistry and the agitation against nostrums and proprietary preparations, many members of the Association, as well as many physicians not in close touch with the work of the past, labor under the impression that such work on the part of the Association is of comparatively recent origin. An inspection of the transactions of the Association since its organization does not bear out this assumption, however. On the contrary, we find that one of the first questions which came before the preliminary convention in 1847 was the regulation of pharmaceutical matters and of "patent" and proprietary remedies.

The following resolution was offered by Dr. John B. Johnson of Missouri and adopted:

WHEREAS, Numberless and important evils result from the almost universal practice of allowing persons, wholly ignorant of drugs and medicines to engage as apothecaries and still greater evils result from the universal traffic in patent and secret medicines, therefore be it

*Resolved*, That the Committee on Education inquire into the expediency of establishing a school or schools of pharmacy in the respective states for the special purpose of preparing persons for the business of apothecaries, and also the expediency of adopting a rule that no physician ought to patronize a druggist or apothecary who deals in patent and secret remedies, and report at the next annual meeting of the Association.

### DRUG ADULTERATION.

The adulteration and substitution of drugs and pharmaceutical preparations were also considered at the subsequent meeting and committees appointed to work for the enactment of laws prohibiting the adulteration of medicinal preparations. At the session of 1849, Dr. Thomas Wood presented the following resolution, which was universally adopted:

*Resolved*, That the Committee on Medical Science for 1849 be instructed to inquire into the expediency of establishing a board to analyze the quack remedies and nostrums foisted on the public and to publish the results of their examinations in a newspaper to be published for that purpose, and, further, to append such plain views and explanations thereto as will enlighten the public in regard to the nature and dangerous tendencies of such remedies.

This resolution, adopted fifty-seven years ago, outlines exactly the object and scope of the present Council on Pharmacy and Chemistry, which has been denounced in the last few months as a dangerous innovation and something entirely outside of the original purpose of the founders of the Association. For the present, however, the work of the Council in investigating nostrums advertised exclusively to the public is only incidental, its main work now being directed to the investigation of proprietary preparations advertised to physicians. The only reason why the work was not prosecuted at that time was that the infant association was without the funds for the successful undertaking of such a work. That social conditions were much the same fifty years ago as they are to-day is shown by the following resolution offered by Dr. Phelps of New York in 1850:

WHEREAS, The clerical profession, even though perhaps sometimes unwarily, yield their extensive influence in the community in giving credence to quackery and quack medicines, therefore be it

*Resolved*, That this subject be referred to the Committee on Hygiene to consider and report at the next annual meeting of the Association.

Dr. Lawson of Ohio offered the following amendment to the resolution:

*Resolved*, That this Association regard it as contrary to its system of ethics for medical journals to advertise nostrums or secret remedies, even though their composition may have been made known to the editor.

Both of these resolutions were adopted.

(Transaction, vol. iii, pp. 42 and 43.)

In 1879, Dr. William Brody of Michigan presented the following resolution:

WHEREAS, Of late years many drugs and combinations of drugs bearing copyright names, have been placed on the market and especially introduced to the notice of physicians, and

WHEREAS, Such drugs and combinations of drugs, having copyright names, are advocated in the medical journals of the country. Be it

*Resolved*, That the use of articles thus protected by copyright and the promoting of their use by advertising them in medical journals is a distinct violation of Section 4, Article 1, of that portion of the Code of Ethics treating on the duties of physicians to each other and to the profession at large, and also of Section 4, Article 1, of that portion of the Code of Ethics, treating on the duties of the profession to the public and of the obligations of the public to the profession. (Transaction, vol. xxx, 1879, p. 45.)

It will thus be seen that the regulations and control of pharmaceutical products has been one of the questions prominently before the Association ever since its organization; that the Association has repeatedly expressed itself as opposed to the exploitation of proprietary products having a secret formula; that it even went so far at one time as to establish a committee for the investigation of these preparations and the publication of their findings to the profession and to the laity; that the only reason why this work was not done years ago was the absence of proper organiation and the lack of a sufficient fund for the prosecution of this work.

### OFFICIAL REGISTER OF PHYSICIANS.

The publication of a register of American physicians, which so far as possible, should oe of an official nature, was one of the subjects on which the newly organized Association expressed itself at the preliminary convention in 1847. The following resolution was offered by Dr. J. L. Pierce of Michigan, and was adopted:

*Resolved*, That the delegates of this convention be requested to ascertain as far as may be practicable and report at the next annual meeting the number of practitioners of medicine in their respective states, designating the number who may have received diplomas from a medical college, the number who may have been licensed by a medical society (a practice then in vogue), and the number who practice medicine without any authority whatever.

### AMERICAN MEDICAL DIRECTORY PROPOSED IN 1849.

In 1849, Dr. Bacheldor offered a resolution providing for the publication by the several counties and districts represented in the Association of all the physicians and surgeons of such districts who are recognized as regularly educated practitioners. In this connection, it is worthy of note that the phrase, "regularly educated practitioners," refers to physicians who were graduates of medical colleges as distinguished from those who had no training whatever. In 1856, Dr. Denton of Michigan offered the following resolution:

*Resolved*, That a committee of three be appointed whose duty it shall be to enlist some enterprising publishers to aid in collecting and arranging material for an American Medical Directory. (Trans. vol. ix, p. 41.)

In 1868, Dr. S. D. Gross, then President of the Association, said in his President's address, "The necessity of having an annual register of the members of the regular profession of the United States has long been felt and generally acknowledged. The issuance by the association of such a publication or an expression of its belief in its necessity and usefulness would go far in securing its early appearance and its steady reissue afterwards." (Trans., vol. xix, p. 66.)

The same year the following resolution was adopted, evidently inspired by Dr. Gross' remarks:

*Resolved*, That a committee be appointed to report next year in regard to the subject of an annual register of the regular profession in the United States and in the meantime to take necessary measures to carry the plan into effect. The following committee was appointed: Dr. John H. Packard, Pa., Dr. Walter E. Gibbon and Ellsworth Elliott, New York. (Trans., vol. xix, 1868, p. 35.)

The following year Dr. Packard, as chairman of the committee, reported progress, and on motion of Dr. Mussey of Ohio, it was resolved that each state medical society be requested to prepare an annual register of all the regular practitioners of medicine in their respective states, giving the names of the colleges in which they may have graduated and the date of diploma or license . (Trans., vol. xx, p. 20.)

The following year, 1870, on motion of Dr. John H. Packard, chairman of the committee, it was:

*Resolved*, That the Committee on a National Medical Register, appointed in 1868, be discharged and that the whole matter of registration of physicians be referred to the various state medical societies; and

*Resolved*, That this action of the Association be communicated by the permanent secretary of the said societies that the recommendation that some system be adopted by each so that lists as complete as possible of the practitioners of medicine in the state may be procurable. (Trans., vol.xxi, 1870, p 49.)

It will thus be seen that the matter of a compilation and publication of a register which would be based on official information, as far as possible, has been in the minds of the leaders of the Association ever since its organization. At various times in the last fifty years, local, state and national directories have been published by private parties. As the amount of profit from sales of such a work is necessarily limited, the publishers have been forced to supplement the subscription receipts by carrying advertisements, in many cases of an objectionable nature, and especially by offering, as a special inducement to subscribers, or on payment of a small bonus, the publication of the name of the subscriber in conspicuous type, or the addition to his name of a large amount of extra information. Such methods, perfectly legitimate and unobjectionable from a business standpoint, have necessarily lowered the value of the directory from a professional point of view, inasmuch as the men who are the most eager and willing to pay for prominence and notice are not necessarily the most prominent and worthy members of the profession. No directory heretofore published has made any attempt to confine its entries to legally qualified physicians or to verifying data furnished by individuals by comparison with the official records. The profession needs, and has needed a directory

compiled from official records in which all would be treated alike, regardless of subscription or the payment of a bonus; in other words, a directory published for information, not for profit.

THE ASSOCIATION JOURNAL.

The only remaining factor in the history and development of the Association which we shall consider at this time is the establishment of THE JOURNAL and its effect on the Association. Up to 1882, the proceedings of the Association were published in a volume of transactions which was distributed free to all members of the Association. The membership at that time was less than 2,000, and as the annual dues were $3.00, the financial transactions of the Association amounted to from five to seven thousand dollars in a year, the greater part of which was spent in publishing and distributing the transactions. An examination of the treasurer's reports for the thirty-five years from 1847 to 1882, shows that there was, most of the time, a purely nominal surplus. At one time, however, the cost of publication of the transactions exceeded the amount of receipts from dues so that, in 1866, the treasurer reports as follows: "The difficulties which have been alluded to in these reports have resulted, as therein foretold, in the bankruptcy of the Association. The permanent members of the American Medical Association will not purchase the volume of transactions, although local agencies have labored in the most important cities in the country and circulars have been sent to individual members and publication made in the leading medical journals. The fact has been again and again demonstrated that the members of the American Medical Association do not consider the volume worth the cost of its production." (Trans., vol. xvii, p. 49.) At this time the treasurer also reported a deficit in the treasury of the Association of $404.02.

THE ASSOCIATION IN DEBT.

The following year, 1867, Dr. D. H. Storer, of Massachusetts, "rose to a privileged question, the honor of the Association. It was in debt and he proposed to levy a tax of $2.00 on each member present to liquidate the debt." (Trans., vol. xvii, p. 33.)

The members of the Association were inclined to be remiss in paying their dues. In fact, many of them refused to pay any dues whatever unless they attended an annual session, and, as it was necessary for a member to be three years in arrears before he lost his privileges of membership, it was only necessary for a permanent member to pay $3.00 every three years, or an average of $1.00 a year, in order to retain membership in the Association. The organization was consequently without funds, without any definite or permanent membership, without any home, without any officers who could afford to devote any time to looking after its affairs. In fact, it was practically nothing but an annual mass-meeting, made up of delegates from the various societies throughout the country, many of which had no mutual bond whatever between them. The amount of funds at the command of the Association were so limited as to make any practical work for the improvement of the profession or the public impossible. For instance, in 1868, the report of the treasurer showed a balance for the year of $83.90. (Trans., vol. xix, p. 53.)

JOURNAL FIRST PROPOSED.

The matter of the establishment of a journal to be the property of the Association was proposed as far back as 1852, when Dr. J. B. Flint of Kentucky proposed to amend the Constitution so as to provide for the establishment and maintenance of a quarterly journal. (Trans., vol. v, p. 44.)

The matter was agitated at various meetings of the Association, but no definite action was taken until the session of 1881, at which Dr. Hodgen, President of the Association, warmly advocated the establishment of THE JOURNAL, following which the following resolutions were adopted:

WHEREAS, In the words of our president, it seems tolerably certain that if for the present bulky, little read and productive volumes of Transactions there could be an active, progressive weekly journal with a large income, such as would naturally come to it from its advertising sheet, there would be in such a change the earnest, rapid and improved growth in the influence and usefulness of the American Medical Association; therefore be it

*Resolved*, That the president appoint a committee of five members, whose duty it shall be to digest and report in detail, as early as possible a plan for the publication of THE JOURNAL, etc. (Trans., vol. xxxii, p. 479, 1881.)

The following year, in discussing this proposition, the committee, of which Dr. N. S. Davis was the chairman, reports that after investigating the matter, they are of the opinion that if 3,000 physicians should become members of the Association, paying $5.00 per year for membership, which would entitle them to THE JOURNAL, such membership to be limited to members of county and state societies, that the resulting fund of $15,000 would be sufficient to support the new JOURNAL. They therefore recommended that a journal, to be known as THE JOURNAL of the American Medical Association be issued. (Vol. xxxiii, p. 39, 1882.) This was accordingly done. Dr. N. S. Davis became the first editor of THE JOURNAL. The subsequent history and growth of the Association is known to practically all of the present membership. That the establishment of THE JOURNAL accomplished all the results expected of it is also well known. Its earnings have not only paid its known running expenses, but those of the Association as well, and there has also accumulated a surplus which has enabled the Association, besides gradually increasing the size and attractiveness of THE JOURNAL, to obtain a permanent home, a printing plant adequate for all the needs of the Association, and which now makes it possible, at this late day, to take up the plans and purposes of our professional forefathers and begin, actively and effectively, the work of raising the standard of medical education, investigating the preparation and composition of the drugs and pharmaceutical preparations furnished us, compiling and publishing an official register of the members of the profession, and of doing many things for the betterment of medicine that would not have been possible otherwise. That these movements will be of great value to the profession, both to those who are non-members as well as members of the organization, hardly admits of question. The physician of the future must be a better trained man than his predecessors have been. Both the public and the profession must be protected on the one hand against quacks and charlatans and on the other against frauds and impositions imposed on them for commercial purposes. These are the things for which the Association has been striving throughout the fifty-seven years of its existence, and which are now becoming, not theories, but actualities, which can be realized in the near future.

## *Clinical Notes*

### THE UMBILICAL CORD.

A METHOD OF DRESSING.*

A. L. BELT, M.D.

GILMORE CITY, IOWA.

When the first stage of labor is nearing completion it is my custom to procure a common glass tumbler, in which 1/2,000 or 1/3,000 solution of bichlorid of mercury with sterile water is prepared, and into this several pieces of sterile gauze and three strong braided silk ligatures are placed. A pair of shears and a compression forceps are then put in a sterilizer or basin on the stove to boil.

The second stage of labor completed, I tie the cord at two points about six inches from the child's body, cut between and pass the child to the nurse to wash while I care for the mother.

When ready to dress the cord, the hands being sterile, I wash the child's abdomen and the cord with a piece of gauze taken from the bichlorid solution previously prepared, carefully cleansing the base of the cord and the omphalic folds.

This done, I examine the cord for possible congenital hernia, and not having found it, or having reduced it if found, I place the compression forceps on the cord as nearly on a level with the margin of the umbilicus as feasible and make firm pressure for the space of a minute. Removing the forceps, with the third prepared ligature I now tie securely in the path of the forceps just removed. In this way pressure is so applied to the walls of the umbilical artery that there is no danger from hemorrhage "when the cord shrinks."

* Read before the Sioux Valley (Iowa) Medical Society, Jan. 18, 1906, at Sioux City, Iowa.

I next cut the cord one-half inch from the ligature with sterile shears, thus removing the end of the cord handled by the nurse in washing the child, and with one of the remaining pieces of bichlorid gauze press out all the contents of the cord possible above the ligature, by this method removing all the dead tissue possible. The stump is then covered with some good antiseptic powder.

Then I take an ordinary vaccination shield, fill it either with sterile cotton or dry sterile gauze, on which more of the same powder is dusted, and placing it over the cord secure it in place with a couple of strips of adhesive plaster placed transversely and apply the band.

Already the attention and the admiration of every one in the room, even to the old grandmother, has been attracted by this dressing, and when I admonish them to allow the dressing to remain for six or eight days and then remove it I have no trouble in the carrying out of my orders, and they will promptly report to me if the dressing slips or comes off.

This dressing is particularly valuable in the country, for often we do not see either mother or child for six months or a year after confinement, and some form of a permanent antiseptic dressing is a very desirable thing.

In conclusion, the benefits of this method of cord dressing are: 1, absolute cleanliness; 2, simplicity of application; 3, permanency; 4, freedom from danger of hemorrhage either from (*a*) shrinkage of the cord or (*b*) the tearing or pulling of the cord when it becomes attached to band by drying of its exuded contents in the ordinary method of dressing; 5, the minimum danger of infection, (a) primary or (b) by the removal of the original dressing and the application of a new one by some unskilled attendant; 6, diminished danger of umbilical hernia.

## REPORT OF A CASE OF FRACTURE OF THE ATLAS VERTEBRA, WITH COMPLETE RECOVERY OF PATIENT.*

ARTHUR HOLDING, M.D.

ALBANY, N. Y.

*Patient.*—Male, aged 68, was referred to the Roentgen ray laboratory of the Albany Hospital by Dr. W. G. MacDonald, Albany, N. Y. Previous occupations, dectective, soldier in Confederate army. Present occupation, broker.

*Family History.*—Father, mother, two brothers and two sisters died of tuberculosis.

*Past History.*—He uses stimulants. Three years ago he was hit on the head with a brick; the blow rendered him unconscious for a few minutes, but beyond the swelling of the scalp, it did not injure him.

*Present Illness.*—Nov. 16, 1905, when near the top of a flight of stairs composed of eight steps, while turning to one side to allow some ladies to pass in descending the stairs, he remembers losing his balance and beginning to fall backward; he made a futile grasp at the banister, but fell, landing at the bottom on the back of his head, neck and shoulders. He was under the influence of liquor at the time of the accident. He received several cuts in his scalp over the vertex of the skull. None of them extended to the skull. The patient was placed in bed, and was evidently not thought in a serious condition, as no physician was summoned until two days afterward. At that time the patient was conscious, acted as though recovering from intoxication, complained of stiffness of the neck as well as considerable pain, which was eased by hot packs, and did not require morphin. On the sixth day after the accident slight delirium developed, the pain and stiffness of the neck increased, and Dec. 4, 1905, he was removed to the Albany Hospital. On admission to the hospital, he could not move his head or neck and complained of feeling as though the back of his head had been cut off and hot irons were being applied to the edges of the wound. With the back of his neck on hot-water bags and lying flat on his back he was comfortable, but as soon as he raised his head or tried to sit up the burning sensations returned in his occiput.

*Examination.*—Posteriorly in the median line the spinous processes could be palpated as high as the fifth cervical; above this point there was an area of muscular spasm, thoroughly masking all bony prominences to a point one inch below the external occipital protuberance. This area of induration or muscular spasm extended laterally as far as the sternomastoid muscles and suggested the sensation frequently felt over deep-seated inflammatory processes. The transverse processes of the vertebræ could not be mapped out without using more violence than was permissible considering the nature of the case. The trachea was freely movable; the tongue protruded in the median line; the pupil reacted directly and concentrically to light and accommodation. He could not distinguish the ticking of a watch held two inches from the ear. He stated that he was deaf before the accident. On palpating the posterior wall of the pharynx with the finger, on a level with the hard palate there could be felt a distinct hard protuberance beneath the mucous membrane, with an estimated elevation of one-fourth inch and with broad sloping sides. Gentle pressure on this eminence elicited no tenderness or fluctuation.

Over the right parietal region he failed to distinguish heat from cold, saying that a test-tube containing hot water felt cold; otherwise there was no impairment of tactile, temperature and painful sensation in the head or neck. He has an impediment of speech, which he states developed forty years ago. There was no difficulty in swallowing, articulating or breathing. He could rotate, flex and extend the head and neck.

*Treatment.*—This consisted of elevation of the head of the bed with extension applied to the head with weight and pulley, the neck resting on hot-water bags. One month after admission to the hospital the weights were removed and the patient was allowed to sit up. His improvement was steady and uneventful.

*Result.*—On Jan. 15, 1906, he was discharged as recovered. He has a slight forward tilt of the head, a slight induration of the soft parts over the first, second and third vertebræ (cervical), and all motions of the head are slightly restricted in all directions. Otherwise he is completely cured. He walks as well as ever and is able to carry on his business as well as he could before the injury. He has had no burning sensation in the occipital region since Jan. 15, 1906.

* Presented before the Albany County Medical Society, Feb. 12, 1906.

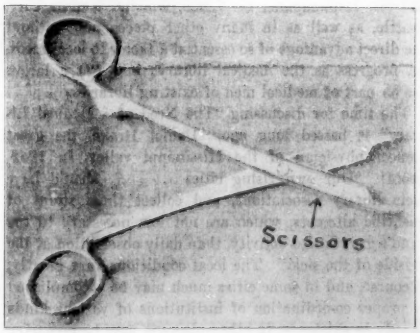
## *New Instrument*

### COMBINED NEEDLE-HOLDER AND SCISSORS.

HENRY FLACK GRAHAM, M.D.

BROOKLYN, N. Y.

The accompanying illustration shows a combined needle-holder and scissors, which I am informed is a new combination. It is intended for office, accident ward and ambulance work, especially, but can be used with advantage in certain conditions in the operating-room. It is the same size as the Abbe needle-holder.



THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance
[*For other information see second page following reading matter.*]

SATURDAY, JUNE 2, 1906.

## THE MEDICAL LIBRARY AGAIN.

There are in this country several very large medical libraries, some of them as complete as any in existence. Thus the most complete medical library is that in the office of the surgeon-general of the U. S. Army, at Washington. Naturally, the other large libraries are located in large cities, the so-called medical centers of the country, although it is true that certain universities, whose homes are in smaller towns, have fairly extensive collections of medical books.

A few years ago a wave of agitation in favor of better and more medical libraries passed over the country, the influence of which is yet felt, especially in certain cities in which the desire to establish medical libraries seems to have taken firm hold. There has been organized, too, an Association of Medical Libraries which, in addition to holding an annual meeting, renders tangible service to its members by means of a bureau for exchange of books and journals. Then there is the *Medical Library and Historical Journal,* now in its third year and certainly an influential exponent of the cause of the medical library and of medical history, especially American.

There are now, it seems to us, two definite and distinct ways for enlarging the scope and the influence of the medical library movement, namely (1), continuation with renewed vigor of efforts looking to the establishment of real, growing libraries in the large cities, e. g., Detroit, Indianapolis, St. Louis, Omaha, Kansas City, Seattle, as well as in many other places now without the direct advantage of so essential a factor to local medical progress as the medical library; and (2) a larger use on part of medical men of existing libraries.

The time for discussing "The Need of a Medical Library" is passed long ago. Daniel Drake, the great pioneer physician of the Mississippi valley, in 1852, wrote: "Our own rising cities . . . should have their library associations, and collect those stores of scientific aliments, which are not less necessary to the mind's growth and activity, than daily observation at the bedside of the sick." The local conditions vary greatly, of course, and in some cities much may be accomplished by proper co-ordination of institutions of various kinds already in existence, in other places it may be necessary to start anew. In all cases, the outcome depends largely on the wisdom and energy of those in charge. There is no question but that if a small group of active, unselfish and intelligent physicians determine to secure for their city a useful medical library, they will certainly succeed.

The charge is undoubtedly true that comparatively few physicians make adequate use of the medical library. Many never delve deeper into medical literature than the text-book. Contracting the text-book habit during student days they remain content ever afterward with receiving information, so to speak, at second hand, and never think of going directly to the first sources of medical knowledge, namely, original articles in medical journals, complete sets of which, together with the *Index Medicus* and the "Index Catalogue" constitute the most valuable asset of the medical library. While there are many who seek not those stores of scientific aliments that Dr. Drake believed essential to the mind's growth and activity, every effort must be made to bring home to physicians the value and importance of medical libraries. The best time to begin is during the period of undergraduate medical study, and it is gratifying to note that in our best schools to-day the library is regarded as an essential part of the necessary equipment. It was Virchow who said that all scientific work is literary, which has been interpreted to mean that inasmuch as all progress in our knowledge is the result in reality of a continuous development, he who would understand thoroughly the present state of our knowledge on any subject must study the development of that knowledge, and this is possible only through access to collections of journals, monographs and special works, not usually in possession of individuals.

The treasures of the richest medical library can be brought within the reach of any physician by means of loans from the surgeon-general's library in Washington. Against an adequate deposit and on payment of express charges to and fro, this library sends books and journals all over the country. Local libraries can and do perform a most useful service by obtaining loans of this kind for their readers, and where desirable this function might be performed very well also by local medical societies, particularly if the *Index Medicus* and the "Index Catalogue," the indices to the current and accumulated medical literature of the world, were at hand. In this way, the medical society may aid its members materially and unquestionably to great advantage to the character of its own scientific work.

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## ANTITUBERCULOSIS ORGANIZATION.

The meeting of the National Association for the Study and Prevention of Tuberculosis, at Washington during the present month, and the reports of certain features of its proceedings in the newspapers, will direct renewed attention to the question of the further organization of the movement against tuberculosis which, up to the present time, has proved so encouraging. More and more those outside of the medical profession are becoming interested in the effort to suppress the great white plague of the North, and very naturally it is to physicians that

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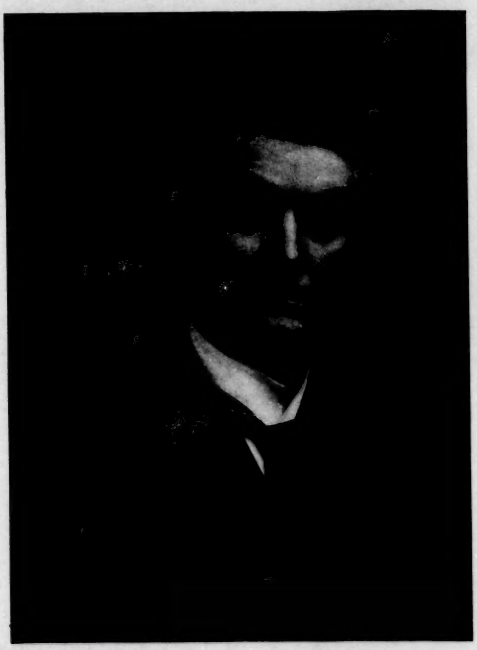

W. J. Mayo

PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION, 1906-7

SUPPLEMENT TO
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
JUNE 2, 1906

they turn for guidance in the matter of initiating and increasing the efficiency of public regulations and popular education that will help in this beneficent modern crusade. For those who wish to obtain data at once practical and up to date to reply to such questions we know of nothing better than the recent annual report of the Pennsylvania Society for the Prevention of Tuberculosis, which has just been issued and which includes details of this organization's work down to May 1, 1906.

It may not be generally known that this was the first society for the prevention of tuberculosis organized and that its organization furnished an example which was followed by most of the civilized countries and by the other states of the Union. A short history of its fourteen years of existence is to be found in the president's address, published in this report. Some of the achievements of the society are dwelt on with pardonable pride. It is pointed out, for instance, that until recent years the Eastern Penitentiary of the State of Pennsylvania, located in Philadelphia, which was built with the idea of enforcing solitary confinement to the utmost degree, constituted the awful example of how inevitably tuberculosis would work its ravages among such prisoners. Owing to the activity of one of the members of the Pennsylvania Society for the Prevention of Tuberculosis, however, this has all been changed and the Eastern Penitentiary is no longer a horrible example. This of itself constitutes the most encouraging lesson of how much can be accomplished for the prevention of tuberculosis even under unfavorable circumstances.

Perhaps the most interesting phase of the Pennsylvania society's work consists in the distribution of tracts which are meant to convey in popular language the most important details of present knowledge with regard to tuberculous prophylaxis. These tracts bear such practical titles as: "How to Avoid Contracting Tuberculosis," "How Persons Suffering from Tuberculosis Can Avoid Giving the Disease to Others," "How Hotelkeepers Can Aid in Preventing the Spread of Tuberculosis," "How Storekeepers and Manufacturers Can Help to Prevent the Spread of the Disease."

With the long and successful experience that the Pennsylvania society has had, it will perhaps be a surprise to most persons to find that its president considers that the problem of tuberculosis sanatoria will probably have to be solved by private beneficence rather than state aid. He points out that in nearly every one of the middle states, in spite of the good will of the people and the passage of favorable laws by the legislatures, there have been serious difficulties in the management of state sanatoria because of political complications. These have proved sufficient to hamper materially the good work of such institutions. The existence of state-aided sanatoria has given to many wealthy persons who would have subscribed to the movement for the eradication of tuberculosis the ready plea that they are supporting state institutions for this purpose by the payment of taxes. The whole report for its suggestive quality is worth careful reading by those who have been interested in the tuberculosis movement and especially by such as now wish to take a more active part in what is probably the most promising field of social endeavor now open.

## A FURTHER CONTRIBUTION TO THE STUDY OF UNTOWARD SERUM REACTIONS.

A few weeks ago[1] we referred to the so-called serum disease, in which annoying complications and sequels varying from slight local erythema to troublesome urticaria, joint pains and edema, are encountered with a frequency that has placed obstacles in the way of a wider use of curative serums, and engendered in some a prejudice against them.

Just issued from the Hygienic Laboratory of the Public Health and Marine-Hospital Service[2] is a noteworthy publication by Director M. J. Rosenau and Assistant Director John F. Anderson dealing with an elaborate experimental study of a newly identified poisonous action of blood serum. This investigation concerns itself with the guinea-pig and the reaction of this animal to horse serum in particular, both fresh normal horse serum, old serum, dried serum, antitoxic (diphtheric) serum, and the so-called "refined and concentrated" antitoxin obtained by precipitating and dialysing antidiphtheric serum. The authors have amplified and correlated observations already familiar to those engaged in the production of curative serums, to the effect that severe symptoms or even death occur in guinea-pigs once treated with horse serum, and, after a proper interval, subjected to a second injection of the same agent. They show by a series of brilliant experiments that this toxic action of horse serum bears a direct relation to the sequence of the injections and the interval between the first and second dose, which "incubation period" must not be less than ten days.

A primary injection, either subcutaneous or intraperitoneal, even in considerable amount, is absolutely innocuous; and if daily doses, or at least several doses, be administered during the critical period, harmful effects are avoided. Indeed, repeated injections with an interval of one or two days induced an immunity against the toxic substance in question. But if guinea-pigs are given a single large or small dose of horse serum, they become sensitized during the ten days or more, and when subjected to a second dose after this time has elapsed toxic phenomena indicating a profound effect especially on the respiratory mechanism appear, either with a rapidly fatal outcome or with symptoms of variable intensity leading to death or to recovery.

Emphasis is justly laid by Rosenau and Anderson on the fact that this phenomenon is in no way peculiar to ordinary diphtheric antitoxin. It is not evaded by antitoxin "refined" by the Gibson method, and is as readily provoked by normal horse serum, fresh, old, or dried.

1. THE JOURNAL, April 7, 1906, p. 1034.
2. Bulletin No. 29.

Much stress is attached to the statement, "Diphtheria antitoxin plays no part in this poisonous action and is in itself harmless." However, that the instructive experiments which are set forth in detail in their monograph have a bearing on the question of accidents in serumtherapy in man is concluded by these investigators, though they do not assume that the reaction studied by them satisfies all the conditions met in human beings, and they agree that factors like "individual susceptibility" and status lymphaticus are not entirely ruled out of consideration. In any event, these researches bring us a step nearer to the solution of the problem of serum complications and sequels, and along with a similar fact brought out by von Pirquet and Schick indicate at least one point which can be applied in practice; that is, so to time the injections of curative serums as to avoid the possible danger of sensitizing a human being. In other words, in beginning serum treatment, one should either inject a massive single dose to allow of slow absorption and consequent immunity or repeat a smaller dose several times during the ten days constituting the "incubation" or critical period.

## EXPERT MEDICAL TESTIMONY.

It is a familiar fact that at the present time and under the system of practice now in vogue our courts are prevented from using expert medical knowledge in such a way as to secure directly, and to the fullest extent, the assistance that such knowledge is capable of giving to the administration of justice. The fundamental difficulty is that the final decision of complex, technical medical questions must be given by persons who lack the technical knowlege necessary, namely, the court and the jury; and this they must endeavor to do on a basis of more or less contradictory facts and opinions that are brought before them in a most confusing and cumbersome manner, to wit, by the so-called battle of experts.

It is evident that in many cases involving problems of a purely technical medical nature the persons best able to adjudicate with justness the medical questions at issue are those who, in addition to a sense of fairness and justice, possess expert technical knowledge and training. Who are better able definitely to decide, for instance, such questions as whether an accused is sane or insane; whether a dead woman had been recently pregnant or not; whether death resulted from poisoning or not; whether a claimant for damages is or is not injured, and, if injured, whether permanently and to what extent, and other questions of analogous nature—a jury composed, let us say, of intelligent, fair-minded but non-medical persons or a commission of equally fair-minded experts in the particular branch of medicine concerned? The answer is so obvious that our wonder is excited as to what the reason may be that Americans, who commonly are regarded at home and abroad as peculiarly gifted with the valuable faculty of doing things in a direct and practical way, have not long ago instituted reforms in the procedure of their courts of law. Surely our legal machinery is not rooted and fixed so irrevocably in constitutional regulations and precedents that adoption of some better system than the present of deciding important medicolegal problems, now passed on by persons without adequate knowledge and consequently incompetent to decide intelligently, is wholly out of question.

The present system of privately retained experts who appear as witnesses in our trials might well have been replaced long ago by the system of nominated experts in use in other countries, perhaps modified better to suit our conditions, whose opinion, derived from consideration of all the facts, should be final and constitute the basis for adjudication of questions that require for intelligent solution technical, expert knowledge. Naturally the fees of such experts should be fixed by legal tariffs. Only in some such way as this will it be possible for the administration of justice to obtain the greatest and most direct aid from expert knowledge in the various departments of medicine.

## MENTAL DISEASES AND GENERAL PRACTICE.

Statistics show a great increase during the last few decades in the number of patients suffering from mental diseases. This increase is not only relative and due to the increase of population, but it is absolute in the sense that the number of insane people to the population is proportionately greater than before. There is little doubt that the reason for this greater frequency of mental affections is that the strenuous life in our large cities almost inevitably leads to a loss of mental equilibrium in those who are of inadequate mental caliber. The better hygiene as a consequence of the enforcement of sanitary regulations and advancement in medical science have led to the preservation of a great many weaker individuals who would have fallen victims either to the various infantile diseases in childhood or a little later would have succumbed to the infectious diseases which used to be such effective agents in removing the less fit from among the population. It is these less vital individuals whose minds especially prove incapable of standing the strain put on them by our modern life and who live to be the increasing population of our insane asylums.

There is no doubt but that these factors which are at work in the production of more frequent mental affections will continue to exert their influence. Hygiene and sanitation will persist in their beneficent work. There is no likelihood, however, of any let-up in the strenuous life. The present state of affairs would seem to demand that there should come a special development in present methods of studying and caring for the insane. It is extremely important that the beginnings of mental diseases should be recognized as early as possible, partly for the sake of the patient himself, because in this way a violent access of mental disturbance may be avoided, and partly for the sake of friends and relatives in order that there may be fewer of the sad attempts, only too often successful, at suicide or homicide. Every

general practitioner, therefore, should have definite knowledge of at least the ordinary and more frequent types of mental diseases, and especially of their early symptoms and of the possibility of serious development as regards violence or other infractions of law and order.

The time has come for the general practitioner to have a better understanding of mental diseases than has been thought necessary in the past.

One of the most important things regarding mental affections is that patients suffering from them should be brought as soon as possible under the influence of suitable surroundings. At present, owing to the lack of definite knowledge by many general practitioners, this most important element in the therapeutics of these diseases is likely to be neglected. Friends, because of their wish to avoid, if possible, the stigma of asylum confinement, are deterred from being urgent in the matter of care for such patients unless something serious seems actually impending. There is besides, unfortunately, under present circumstances the law's delay by which during the process of preparation for proper disposition, patients are often kept for some days under extremely unsuitable conditions.

If there were wards in general hospitals in which patients suffering from mental diseases could be cared for for a few days most of these difficulties would disappear. Friends would be willing to have patients taken to hospitals early, with the idea that careful observation should be made in order to determine the precise condition and to apply as far as possible suitable treatment. At present, the attitude of suspicious fear with which patients in beginning mental diseases are regarded by those at home is quite sufficient of itself to cause further deterioration of the mental condition. Many cases of mental diseases are sure to improve. The prognosis as to the improvement, however, depends to a large extent on how far the physical condition of the patient has suffered, and then the degree to which mental symptoms have been allowed to proceed before proper arrangements for treatment have been made. If early in the cases of beginning mania and melancholia patients could be placed under the firm, careful management of nurses trained properly to care for them, there would often not be the serious outbreaks of mental disturbance that eventually develops under present conditions.

It has been pointed out that it would be considered unpardonable in the present state of our knowledge if typhoid-fever patients had to be kept for several days under observation in unsuitable conditions. The same is true of mental diseases. Undoubtedly, many a patient is rendered much worse than would otherwise be the case by the neglect of his physical health consequent on lack of care, but still more on lack of knowledge of the necessities of his condition on the part of those who wish him well enough, but are too timorous and anxious properly to provide for him. Most of these unfortunate circumstances could be remedied at once by the establishment of psychopathic departments in connection with general hospitals. Many objections, of course, can be urged against this, but they do not seem of sufficient weight to overbalance all the advantages for the patients and the community that would accrue from it. This seems to be a definite advance demanded by the increase of mental diseases.

## GERMS FROM MUMMIES.

In a rather curious monograph a French authority credits the spread of consumption in Europe to the archeologic investigations of the time of the first Napoleon in Egypt, when the mummies of the Pharaonic period, laden, as he says, with the germs of tuberculosis, were first sent out wholesale to the museums of Europe. He claims, it is said, that experiments made in Paris have demonstrated that these 3,000-year-old bacilli, in spite of the antiseptic methods employed by the Egyptian embalmers, are far more deadly than the active living ones of to-day, and that the opening of a mummy case is a perilous undertaking for those who have it in hand. This is news that we can not accept too implicitly. It seems much like the popular notion that the seeds of ancient Egyptian cereals found with the mummies are always ready to germinate under proper conditions, a notion which, we believe, botanists do not accept. Even if tuberculosis germs could exist and could still retain their vitality after 3,000 years, it would hardly be necessary to invoke their agency for the causation or even the exacerbation of tuberculosis in Europe 100 years ago. We suspect that if any reliable sanitary statistics could be obtained it would be found that there was no need of imported mummy tuberculosis at that time; affairs were bad enough as they were. It is just one of those sensational speculations which, while interesting and possibly even a little suggestive, are not helpful.

## THE PURE-FOOD BILL.

At the present writing it looks very much as if the opponents of the Pure-Food Bill would win out again. For some weeks this measure has been the special order in the House of Representatives; but there it is blocked. Whether it will come up during this session, unless some special effort is made by its advocates outside of Congress, is now a little doubtful. There is no organization to represent the people, except the American Medical Association, to bring pressure on those who have the matter in charge; but there are any number of organizations to represent those who are opposing the bill. Aside from the whiskey trust, the "patent-medicine" association, the various manufacturers who are putting out misbranded or fraudulent foods, there are many others whose financial interests are at stake, and all these, collectively and individually, are continuously active in various ways. Gentlemen have been sent to Washington from all parts of the country to see their congressmen about the matter, and a little personal talk from an influential constituent often has considerable weight. If we are rightly informed, considerable of this influence has been forthcoming during the last few weeks. It is

well known that there is a goodly majority in the House in favor of the measure, especially if we count those who have to appear to be in favor of it to please their constituents, and if the bill comes to a final vote its passage is almost sure—hence, the keeping of the bill in committee until it is too late to act on it. Furthermore, amendments of various kinds are in readiness both to delay and to weaken the measure if they are adopted. So, altogether, the outlook is not encouraging for this session, and the next is a short one, which means that there will be a good excuse not to push it then. But it is not worth while to be discouraged or to give up. The people are in earnest in their demand for the law, and there are more who are interested and who are demanding it year by year. The awakening of public opinion in regard to this matter during the last two or three years is remarkable, and it will not become dormant until satisfactory legislation is enacted.

### MOSS AS FOOD.

A Norwegian authority, Dr. Hansteen of the agricultural school at Aas, according to the London dispatches, has made the discovery that moss, probably of the succulent Arctic variety, is a palatable and nutritious food for man and that it will become an important addition to our food resources. It has long been known that certain forms of mosses or lichens can serve as dietary adjuncts or as food in emergencies, but any very extensive dependence on them has not been ordinarily thought possible. The human species is not even claimed by the vegetarians to be a strictly herbivorous or grazing animal, but Dr. Hansteen's alleged discovery would very nearly make him such. If Hansteen is correct, the Arctic plains will become regions of plenty and the almost annual starvation periods of the dwellers in those regions have been needless. The discovery is one that can be taken with some allowances.

## Medical News

### ALABAMA.

**Physicians Fined.**—Drs. William W. Ransom and Wallington P. McAdory, Birmingham, were each fined $1, May 10, in the police court, on the charge of failure to report births to the city health officer.——T. B. W. Brooks, Montgomery, was convicted on the charge of practicing medicine without a certificate in Marion County and fined $25 and costs.

**State Medical Association.**—The Medical Association of the State of Alabama held its thirty-third annual meeting in Birmingham, April 17, 18, 19 and 20, under the presidency of Dr. Eugene D. Bondurant, Mobile. The association was welcomed on behalf of the Jefferson County Medical Association by Dr. Lewis C. Morris, Birmingham, president. Hon. Henry B. Gray delivered the address of welcome on behalf of the city of Birmingham. In his annual address the president referred to the advances made in the treatment of various diseases, and especially to the work of the quarantine officers in keeping yellow fever out of the state of Alabama. He commended the anti-tuberculosis campaign and recommended that the association publish and own a medical journal to be devoted strictly to its interest. He advised that the county boards of examiners be done away with and that the basis of representation in the state convention should be the membership of the subordinate organization. The senior vice-president in his report noted a large increase in the membership of the county medical societies and stated that of the 1,005 legal physicians in the state 821 were members of the association. The papers read during the session were of unusual interest. The address of Surgeon James H. White, United States Public Health and Marine-Hospital Service, New Orleans, on the "Sanitary Needs of the Cities of the South," was of especial interest. He stated that the crying need of the southern cities is for drainage, sewage, pavements and water supply, and that when the necessary aridity has thus been obtained, the seacoast cities of the South can carry on commerce with their natural tributaries in the tropics with as much impunity as do New York and Boston, and with a great deal more convenience to themselves and tributaries. The board of censors recommended the creation of an anti-tuberculosis committee to consist of nine members and to be empowered to act independently or in cooperation with the state officers or organization. It also endorsed the recommendation for the establishment of an inebriate institution and also for a state hospital for epileptics. It endorsed a state journal for the association, but suggested further consideration. The following officers were elected: President, Dr. George T. McWhorter, Riverton; vice-presidents, Drs. Louis W. Johnston, Tuskegee, and Andrew J. Coley, Alexander City; state health officer, Dr. W. H. Saunders, Montgomery; secretary, Dr. J. Norment Baker, Montgomery (re-elected); treasurer, Dr. Henry G. Perry, Greensboro; censors, Drs. Dyer F. Talley, Birmingham, and John R. G. Howell, Dothan; orator, Dr. Toulman G. Gaines, Mobile, and councilors, Drs. William R. Jackson, Mobile, Edwin B. Ward, Selma, Allan A. Greene, Anniston, J. D. S. Davis, Birmingham, Enoch J. Conyngton, Decatur, and Jacob U. Ray, Woodstock. The association adjourned to meet in Mobile in 1907.

### COLORADO.

**Personal.**—Dr. Ella A. Head has been appointed city physician of Greeley.——Dr. Francis B. Rothrock, Colorado Springs, has returned from Europe.

**Again Found Guilty.**—George A. Rietzel, alias Dr. George Elliott, who recently completed a sentence in the state penitentiary for criminal malpractice, was convicted in Denver, May 18, of sending improper matter through the mails, and was remanded for sentence.

**Health Report of Colorado Springs.**—During April 45 deaths occurred, equivalent to an annual death rate of 16.87 per 1,000. Of the deaths 17 were due to tuberculosis. The births of the month numbered 31. No typhoid fever, measles, smallpox nor diphtheria was reported during the month.

**Commencement.**—Denver and Gross College of Medicine celebrated its annual commencement exercises May 19. Judge Ben B. Lindsey made the address to the students, and Chancellor H. M. Buchtel of Denver University conferred degrees on a class of 26. The annual banquet was held at the Savoy after the exercises. Dr. Melville Black presided as toastmaster and toasts were responded to by Chancellor Buchtel, and Drs. Leonard Freeman, Claude E. Cooper and Robert B. Porter.

### CONNECTICUT.

**Diphtheria.**—North Canton has several cases of diphtheria, one patient being the son of the postmaster. The village school has been closed by the health authorities and the post-office has been moved temporarily.

**Personal.**—Dr. William W. Brackett has been appointed health commissioner of New Britain, vice Dr. William P. Bunnell.——Dr. J. W. Ives has been appointed medical examiner for the town of Milford, vice Dr. Elias B. Heady.

**April Deaths.**—During April 1,414 deaths were reported, equivalent to an annual death rate of 17 per 1,000. The deaths from infectious diseases were 17.8 per cent. of the total mortality. Pneumonia was the cause of 210 deaths; diseases of the nervous system, 163; heart diseases, 152; consumption, 120; accidents and violence, 83; bronchitis, 46, and influenza, 34.

**Infectious Diseases.**—During April 24 cases of smallpox were reported in one town only, Putnam; 681 cases of measles from 76 towns; 169 cases of scarlet fever from 40 towns; 10 cases of cerebrospinal meningitis from 5 towns; 120 cases of diphtheria from 32 towns; 143 cases of whooping-cough from 17 towns; 46 cases of typhoid fever from 20 towns, and 49 cases of consumption from 17 towns.

**Want a Hospital.**—Forty Roman Catholic physicians of New Haven met May 9 and considered a proposition for the establishment of a Roman Catholic hospital in New Haven. Dr. John F. Luby presided and Dr. Thomas A. O'Brien was secretary of the meeting. A committee was appointed, consisting of Drs. Matthew C. O'Connor, John F. Luby and Stephen J. Maher, to make a thorough inquiry into this question and report at a subsequent meeting.

## GEORGIA.

**Personal.**—Dr. Stewart R. Roberts has resigned his professorship of physiology in Emory College and will practice in Atlanta.——Dr. Charles H. Hall, Macon, is seriously ill.

**Cornerstone Laid.**—The cornerstone of the new building of the Atlanta School of Medicine was laid May 11 with appropriate ceremonies. The new building will cost about $70,000.

**Pasteur Institute.**—Dr. James N. Brawner, physician in charge of the Pasteur Institute, Atlanta, reports that since the foundation of the institute in 1900, 387 patients have been treated, of whom only two have died.

**County Physicians Exonerated.**—Drs. Everard D. Richardson and John W. Hurt, county physicians of Fulton County, who were recently indicted by the grand jury for neglect of prisoners in the custody of the county, after full investigation, have been exonerated by the Fulton County commissioners.

**Society Meeting.**—At the annual meeting of the Troup Medical Society, May 10, the following officers were elected: Dr. Joseph S. Horsley, West Point, president; Dr. A. J. Tuggle, La Grange, vice-president; Dr. Henry W. Terrell, La Grange, secretary and treasurer (re-elected), and Dr. Isaac H. Lane, La Grange, censor.

## INDIANA.

**Diphtheria Closes Schools.**—Two school houses in Marion have been closed on account of the prevalence of diphtheria.

**Physician Burned.**—Dr. Marion F. Parrish, Munroe, suffered severe burns on the face, hands and arms in an explosion of chemicals, May 19.

**Personal.**—Dr. Roy W. Earhart, Mulberry, has sailed for Colon.—Dr. Thomas A. Kearns, Muncie, has left for Vienna. ——Dr. George W. McCaskey, Fort Wayne, has returned from a trip to Europe.——Dr. Nelson D. Brayton, Indianapolis, has been appointed interne in the Medical Department of the Canal Zone.

**Favors One Medical School.**—The Daviess County Medical Society, at its meeting May 11, adopted resolutions endorsing the action of the several medical colleges of the state in merging their faculties and equipments and forming the Medical Department of Purdue University, and protesting against the movement being made to organize a medical school in connection with the State University.

**Stemen Leaves Fort Wayne.**—Dr. Christian B. Stemen, chief surgeon of the Wabash System, has resigned on account of removal. Dr. Stemen has also resigned as dean of Fort Wayne Medical College and as trustee of Purdue University. A luncheon was given by the physicians of Fort Wayne, May 14, in honor of Dr. Stemen, who has accepted a chair in the Medical School of Kansas University, Kansas City. Dr. Kent K. Wheelock acted as toastmaster.

**Commencement.**—The graduating exercises of the Medical College of Indiana, Department of Medicine of Purdue University, took place in Lafayette, May 13, when a class of 122 received diplomas. The graduates, faculty and friends came from Indianapolis on a special train. President W. E. Stone delivered the introductory address on "Education and Efficiency." Prof. George E. Vincent of the University of Chicago delivered the doctorate address. The dean, Dr. Henry Jameson, Indianapolis, presented the class to the president of the university, who conferred the degrees.

**Sickness and Death in Indiana.**—The State Board of Health reports tonsillitis as the most prevalent disease in the state during April. Then follow rheumatism, pneumonia, bronchitis, influenza, scarlet fever, whooping-cough, intermittent fever, remittent fever, measles, pleuritis, diarrhea, typhoid fever, erysipelas, diphtheria, cerebrospinal meningitis, typho-malarial fever, smallpox, cholera morbus, puerperal fever, dysentery and cholera infantum. Smallpox occurred in three counties, Adams having 15 cases, Allen 20 cases, and Miami 15 cases. The deaths of the month were 2,976, equivalent to an annual mortality of 13.2 per 1,000. This compares unfavorably with the rate of 12.1 per 1,000 in 1905. Of the deaths, 31 per cent. were of individuals of 65 years and over, and 14.1 per cent. of infants under one year. Tuberculosis caused 415 deaths; pneumonia, 386; cancer, 126; violence, 124; cerebrospinal meningitis, 42; typhoid fever, 34; influenza, 28, and whooping-cough and diarrheal diseases, each 27. Of the 124 deaths from violence 28 were suicides and 2 homicides. Of the suicides, 7 were due to gunshot wound, 5 to asphyxiation and 12 to poison.

## KANSAS.

**New Hospital for Emporia.**—The new hospital which is being erected in Emporia will be completed and ready for occupancy about June 1.

**Smallpox.**—Two smallpox patients in Iola have broken quarantine and departed for parts unknown.——Hutchinson has had five cases of smallpox in the last four weeks.

**Graduation.**—A class of 18 was graduated at Kansas Medical College, Topeka, April 18. James A. Troutman delivered the general address, Dr. Herbert L. Alkire the faculty address, and Dr. William S. Lindsey conferred the degrees.

**Charter Revoked.**—The charter of the Kansas State Medical and Surgical Institute, Kansas City, a mail-order medical establishment, was revoked May 13, on recommendation of Dr. George H. Hoxie, editor of the *Journal of the Kansas Medical Society*.

**Contract for Medical Building Awarded.**—The contract for the construction of the new laboratory and administration building of the University Medical School, Rosedale, was awarded by the board of regents to the Urban Construction Company, Kansas City, May 5, for $16,824.

**Supports Pure-Food Bill.**—The committee on public health and legislation of the Shawnee County Medical Society presented a resolution at the meeting of May 7, supporting the original pure-food bill and instructing the secretary to send a copy of the resolution to the Kansas congressman.

**Personal.**—Dr. Franklin P. Hatfield, Grenola, has been appointed a member and secretary of the State Board of Medical Registration and Examination.——Dr. W. H. Robinson, Ubera, is suffering from paralysis of the right optic nerve.——Dr. C. E. McClung, dean of the Kansas University Medical School, was seriously injured by an explosion of dynamite, May 19.

**Vital Statistics for 1905.**—The report of Dr. S. Jay Crumbine, secretary of the State Board of Health, shows that the total number of deaths reported during 1905 was 3,005. Consumption caused 965 deaths; pneumonia, 780; typhoid fever, 397; diphtheria, 251; cholera infantum, 195; dysentery, 120; influenza, 99; scarlet fever, 70; whooping-cough, 58; smallpox, 38, and measles, 27. During the year 744 deaths from violence were reported; of these 116 were from suicide, and of the suicides 34 chose poison and 31 firearms as the route of death. The deaths from tuberculosis amounted to 63.7 for each 100,000 of population. There were 4,116 cases of smallpox reported during the year, with only 33 deaths, an average of less than 1 per cent.

**State Society Meeting.**—The fortieth annual meeting of the Kansas Medical Society was held at Topeka, May 9, 10 and 11, the president, Dr. Charles E. Bower, Wichita, in the chair. Prof. W. H. Carruth, Lawrence, delivered an address on the relation of Kansas University with the Kansas Medical Association, and Dr. Jeptha Dillon, Eureka, read an interesting article on organization. A committee of three was appointed to prepare several amendments to the laws now on the statute books relative to the illegal practice of medicine. The following officers were elected: President, Dr. Lyman L. Uhls, Osawatomie; vice-presidents, Drs. William F. Sawhill, Concordia, John P. Kaster, Topeka, and Paul S. Mitchell, Iola; librarian, Dr. Samuel G. Stewart, Topeka, and editor, Dr. George H. Hoxie, Kansas (re-elected). The meeting next year will be held in Kansas City.

## MARYLAND.

### Baltimore.

**Bequest.**—Mr. E. Greenbaum left $500 to the Hebrew Hospital.

**Suicide.**—There were two cases of death from suicide last week, making 33 since January 1.

**Commencement.**—At the commencement of the Baltimore Medical College, held May 22, 96 candidates received degrees. The diplomas were conferred by the mayor.

**Personal.**—Dr. Henry M. Wilson left for Europe, May 22, on account of the illness of his daughter there. Others who expect to leave for Europe shortly are Drs. John C. Hemmeter, Randolph Winslow, J. Mason Hundley, Hiram Woods and Gordon Wilson.——Dr. E. Miller Reid has resigned from the faculty of the Baltimore University, in which he has held for about 20 years the chair of nervous diseases, throat and chest. ——Dr. Herbert Schoenrich left Baltimore May 22 for New York City, where he becomes assistant to the pathologic department of the Presbyterian Hospital.——Dr. Edward A. Smith has been nominated as captain and assistant surgeon, Fourth Infantry, M. N. G.

**The Typhoid Fever Epidemic.**—The prevalence of typhoid fever in the northern section of the city has caused much alarm there this week. The city water supply is claimed to be pure, but many houses in that section are not supplied with it, and pumps and wells which are known to be con-

taminated are used. The streets, yards and alleys are said to be in a dreadful condition, clogged with refuse and reeking in filth and bad odors. On May 26, by mutual understanding, the people turned out and gave the section a thorough cleansing, giving up the half-holiday for that purpose. The city authorities gave their assistance. More than 130 cases of typhoid fever are said to have occurred in this part of the city.

## MICHIGAN.

**The Afflicted.**—Dr. Festus F. Pitcher, Battle Creek, has been adjudged insane and committed to the State Hospital, Kalamazoo.——Dr. W. Clay Bastar, Benton Harbor, was operated on in Chicago, May 15.——Dr. Albert L. Walker, Salem, suffered a cerebral hemorrhage May 13.

**Communicable Diseases.**—Marinette still has three cases of smallpox, which the health officer claims did not originate in the city.——Diphtheria is said to be raging at Lincoln Lake, where eight families are under quarantine, two schools have been closed, and church services have been prohibited for the time being.——Five cases of smallpox and two of varioloid are reported from Greenville, Mich.

**Personal.**—The Alumni Association of the Detroit College of Medicine presented a silver loving-cup to Dr. Theodore A. McGraw, May 11.——Dr. Josiah L. Ambrose, Bay City, has been appointed city physician.——Dr. Gilbert S. Field, Detroit, sailed for Europe from Montreal, May 7.——Dr. Wilber S. Henderson has been elected city physician of Port Huron.——Dr. Zelpha C. Walker has been made a member of the Benton Harbor board of health.

**Alumni Election.**—At the annual meeting of the Detroit College of Medicine Alumni Association, May 17, 400 were present. The following officers were elected: Dr. Louis J. Hirschman, Detroit, president; Dr. Richard C. Buchanan, Green Bay, Wis., vice-president; Dr. John C. Dodds, Detroit, secretary and treasurer; Dr. E. C. Rumer, Davison, Mich., historian, and Drs. H. Wellington Yates and Richard E. Mercer, Detroit, members of the executive committee.

**Commencements.**—The thirty-eighth annual commencement exercises of the Detroit College of Medicine were held May 17. For ten days preceding that date the annual clinics for the alumni of the institution were in progress, at which Drs. James P. Tuttle, New York City, and Dr. Howard Kelly, Baltimore, took part. A class of 82 was graduated. Dr. Frank B. Walker delivered the faculty address, and President Sidney Miller of the board of trustees conferred the degrees.——The Michigan College of Medicine and Surgery, Detroit, held its annual commencement exercises May 11. Prof. William A. Hackett presided. Rev. Dr. Whelan, Port Huron, delivered the address, and Dr. Hal C. Wyman, dean of the faculty, conferred degrees on a class of 22.

## MISSOURI.

**Sentenced for Criminal Operation.**—Dr. Edward J. Hogan, St. Louis, was fined $250 and sentenced to six months in the workhouse, May 25, for performing a criminal operation.

**Smallpox.**—Dr. L. J. Dandurant reports seven cases of smallpox in Willowtown, south of St. Joseph, and one in Hyde Valley, and complains that the patients do not respect the quarantine. He was authorized to take such means as might be necessary to enforce rigid quarantine.

**Personal.**—Dr. Downey S. Harris, assistant to the chair of pathology in the Medical Department of St. Louis University, has been appointed city bacteriologist of St. Louis.——Dr. Max A. Goldstein, St. Louis, will sail for Europe in a short time.——Dr. Heine Marks, St. Louis, has been elected chairman of the joint committee of the municipal assembly to make plans for the reorganization of the board of health.——Dr. Ira C. Young, St. Louis, has returned from a vacation trip to Southern California.——Dr. Daniel D. O'Gorman, St. Louis, has been appointed supreme medical director of the Catholic Ladies and Knights of America.——Dr. and Mrs. Omar Morgner, St. Charles, left for Europe, May 16.

**Commencement Exercises.**—The medical department of St. Louis University held its annual commencement exercises May 19, when a class of 91 was graduated. The address was made by the dean, Dr. Young H. Bond, and Dr. R. C. Atkinson delivered an address on "The Needs for Greater Clinical Facilities," and Dr. C. M. Jackson spoke on "Two Desirable Reforms."——The commencement exercises of the Medical Department of Washington University were held May 24, when a class of 55 was graduated. Dr. Maurice H. Richardson delivered the address of the evening on "The Ideal Surgeon."

**State Association Meeting.**—The forty-ninth annual meeting of the Missouri State Medical Association was held in Jefferson City, May 15, 16 and 17. The address of welcome was delivered by Governor Folk. On the first evening the warden of the state penitentiary entertained the association at a supper at the institution, where the regular ration for prisoners was served the guests. The secretary made a report which showed the association to be in good financial condition, there being a balance of $4,000 in the treasury. He reported that 95 of the counties in the state had been organized on the standard plan. The council is to be enlarged by adding 10 more districts, to be 28 instead of 18 in the state, each district being composed of three to five counties. The election of officers evolved a considerable degree of excitement. Eventually Dr. Charles H. Wallace, St. Joseph, was elected president, the other candidate being Dr. C. R. Woodson, superintendent of the State Hospital for the Insane No. 2, St. Joseph. Dr. Wallace declined to enter on the duties of his office until after investigation into the alleged charges of consulting with and accepting a fee from a quack had been made. The other officers elected were: Vice-presidents, Drs. F. W. Allen, Callao, William G. Cowan, Sedalia, C. J. Orr, St. Louis, E. H. Thrailkill, Kansas City, and Dr. H. L. Reid, Charleston; secretary, Dr. C. M. Nicholson, St. Louis; treasurer, Dr. A. Franklin Wells, Salisbury, and chairman of the committee of public health and legislature, Dr. Frank J. Lutz, St. Louis. The house of delegates, among other matters, took under consideration the movement to change the statute of limitation from five years to one year as regards the possibility of suits for malpractice.

## MONTANA.

**Diphtheria in Anaconda.**—Diphtheria has prevailed in Anaconda for several months and at present appears to be on the increase. The health authorities now propose to make a thorough examination of all suspects, and to inaugurate a system of isolation and quarantine in the hope of stamping out or at least checking the progress of the disease.

**State Association Meeting.**—The twenty-eighth annual session of the Montana State Medical Association was held at Butte, May 9 and 10, with the president, Dr. Donald Campbell, Butte, in the chair. Of the 175 members 63 were present, so that this meeting of the society was the most fully attended of any in its history. The different sections of the state were better represented than heretofore, and great interest was manifested in the proceedings. The president's address dealt with medical progress of the past year, and he paid especial attention to the publicity given the nostrum question. One of the most interesting papers of the session was that read by Dr. H. T. Ricketts of the University of Chicago on spotted fever, or the tick disease. Dr. Ricketts came to Montana as an original investigator in the hope of discovering the cause of the spotted fever which has existed so long in the state. He found eight cases in the western part of the state and seven of the patients died. The most common theory of the cause of the disease is the tick fever. This is combated by the inhabitants, because many people who are bitten by ticks do not get the disease. Dr. Ricketts strongly urged the appointment of a legislative committee to investigtae this matter and the appropriation of sufficient money by the legislature to carry on the investigation. The following officers were elected: Dr. O. Y. Warren, Warm Springs, president; Drs. Thomas D. Tuttle, Billings, Lawrence R. Packard, Whitehall, and Edgar F. Dodds, Missoula, vice-presidents; Dr. Grace Wilson Cahoon, Butte, secretary (re-elected); Dr. W. W. Taylor, Kalispell, treasurer, and Drs. George W. King, Helena, Edward W. Spottswood, Missoula, Thomas J. Murray, Butte, W. W. Williams of Northeastern Montana, J. H. Irwin, Great Falls, Elmer L. Southerland, Sheridan, and Fred F. Addix, Lewistown, councilors. The society will meet next year in Billings.

## NEBRASKA.

**Alumni Meetings.**—The alumni banquet of Creighton Medical College was held May 14, at which over 80 alumni were present. Dr. T. J. Dwyer served as toastmaster.——The special alumni clinics of the University College of Medicine, Omaha, were held May 23 and 24. The alumni meeting was held May 23 and the annual alumni luncheon, May 24.

**Hospital Cornerstone Laid.**—The cornerstone of the new Methodist hospital, Omaha, was laid by Bishop John W. Hamilton, May 24. The new hospital will cost about $100,000.——The building fund of the new Clarkson Hospital now amounts to about $22,000, and the committee is confident that the $13,000 additional required will be secured within the year.

**Commencement.**—The Omaha Medical College, University of Nebraska College of Medicine, held its annual commencement exercises May 24, when a class of 7 was graduated. The address of the evening was delivered by Dr. James Carroll, United States Army, on the "Microscope in Medicine." Dr. Alexander S. von Mansfelde, Ashland, delivered an address on the "History of Medicine in Nebraska," and Dr. William F. Milroy, Omaha, spoke on the history of the college.—Creighton Medical College, Omaha, graduated a class of 39, May 15.

## NEW HAMPSHIRE.

**Dartmouth Alumni Meet.**—At the annual meeting of the Dartmouth Medical College Alumni Association, held in Concord May 17, the following officers were elected: President, Dr. William A. Megrath, Louden; vice-presidents, Drs. Roy V. Baketel, Methuen, Mass., and David P. Goodhue, West Springfield, N. H., and secretary and treasurer, Dr. Howard N. Kingsford, Hanover.

**Military Surgeons Meet.**—The annual meeting of the New Hampshire Military Surgeons was held in Concord, May 17. It was voted to hold an adjourned meeting on governor's day at the Grand Army encampment at The Weirs this summer. Dr. Granville P. Conn reported progress on his history of New Hampshire military surgeons, which will make a book of about 500 pages. Dr. Ezra Mitchell, Lancaster, was elected president; Dr. Granville P. Conn, Concord, secretary, and Dr. Ferdinand A. Stillings, Concord, treasurer.

**New Hampshire Medical Society.**—The one hundred and fifteenth annual meeting of the New Hampshire Medical Society was held in Concord, May 17 and 18, under the presidency of Dr. Ferdinand A. Stillings, Concord. One of the principal subjects for discussion was the question of the taking of contract work by members of the profession and society, but no definite conclusion was reached. The following officers were elected: President, Dr. Ira J. Prouty, Keene; vice-president, Dr. John H. Neal, Rochester; treasurer, Dr. David M. Currier, Newport; secretary, Dr. D. Edward Sullivan, Concord, and necrologist, Dr. Eli E. Graves, Penacook. At the annual banquet Dr. Forrest L. Keay, Rochester, presided as toastmaster.

## NEW MEXICO.

**State Association Meeting.**—The New Mexico Medical Association convened for its twenty-fifth annual session at Albuquerque, May 2 and 3, under the presidency of Dr. Percy G. Cornish. The mayor of Albuquerque welcomed the association to the city, and the members were the guests of the Bernalillo County Medical Society at a banquet on the first evening, over which Dr. P. G. Cornish presided as toastmaster. The following officers were elected: President, Dr. Thomas B. Hart, Raton; vice-presidents, Drs. Samuel M. Lane, Silver City, William T. Joyner, Roswell, and Daniel H. Carns, Albuquerque; secretary, Dr. E. R. McBride, Las Cruces; treasurer, Dr. Harry M. Smith, Las Vegas; councilor, Dr. Samuel D. Swope, Deming (re-elected); editor-in-chief of the *Territorial Medical Journal*, Dr. G. L. McLandress, Albuquerque, and associate editors, Drs. Francis T. H. West, Las Vegas, James H. Wroth, Albuquerque, William W. Phillips, Roswell, and R. E. McBride, Las Cruces. Las Cruces was selected as the next place of meeting.

## NEW YORK.

**Clairvoyants Licensed.**—An ordinance was recently enacted in Buffalo requiring clairvoyants to pay an annual license fee of $100. This is equivalent to the recognition by the city of parasites to rob the ignorant and poor.

**Recovers Damages.**—Dr. Edward McGuire, Buffalo, recovered $200 damages and costs in the municipal court for damages sustained to his automobile, which was wrecked by colliding at night with a pile of coal on which there was no danger signal.

**Personal.**—Hon. D. S. Lockwood, Buffalo, a member of the state commission in lunacy, is seriously ill.——Dr. William Gaertner, Buffalo, has been elected president of the local branch of the German-American National Alliance.——Dr. Frederick Preiss, Buffalo, who recently underwent a serious operation at the Sisters' Hospital, is progressing toward recovery.——Dr. J. F. Munson, a graduate of the University of Michigan, for two years an assistant to Prof. Victor C. Vaughan, has been appointed resident pathologist at the Craig Colony for Epileptics, Sonyea.

**Buffalo Health Report.**—Health Commissioner Greene submitted his annual report, which shows the death rate was only 14.14 per 1,000 for 1905. The rate for children under 6 years old was 4.05. Dr. Greene rehearses what the department has done to preserve the health of the city, and makes various recommendations looking toward better sanitation. He also asks for additional milk inspectors to inspect the milk supply at its source in the country.

**Alumni Arrangements.**—The executive committee of the alumni of the Medical Department of the University of Buffalo has arranged for a four-day meeting of the association, to be held at Buffalo, May 29, 30, 31 and June 1. Clinics will be held at all the hospitals and dispensaries of the city. Dr. Denslow Lewis, Chicago, is to give an address on "The Social Evil." On May 29 the resident alumni will entertain the visiting alumni at luncheon at the University Club. On May 30 the teaching staff will entertain the alumni at luncheon at the University Club, and a luncheon will be given to alumni at the Saturn Club on the following day.

**Increase in Insane.**—An increase of 547 in the total insane persons cared for in institutions over any previous year in the history of the state is shown in the annual report of the State Charities Aid Association to the state commission in lunacy. The number of insane in 1905 was 27,408, or one demented for every 294 of population, while in 1900 there was one for every 305. As a mitigating circumstance the report points out that while the total of insane cared for last year was larger than ever before, the increase in new cases was the smallest of the last 15 years. The number recorded in 1905 is accounted for by the improvements in the care of the health of insane persons by which many lives are declared to have been spared which would formerly have been lost. In 1904 the state hospitals showed more than 3,000 patients over their certified capacity, while in 1905 the excess was but slightly over 1,600.

### New York City.

**Sanatorium for Hebrew Children.**—The twenty-eighth annual report of this institution announces that the new wing will be opened this summer. During the last season 2,023 children were cared for, and also many nursing mothers.

**Sea Breeze Home Opens.**—The summer season of this home has begun, and while it is unable to care for all the needy mothers and babies in New York, it has sent invitations to hospitals, clinics, dispensaries, schools, physicians and employers, asking them to inform it of those in need.

**For Seaside Hospital.**—Mrs. Andrew Carnegie has given the Seaside Hospital for Crippled Children $10,000 toward the new hospital. This brings the Association for Improving the Condition of the Poor within $44,000 of the $125,000 which must be raised in order to secure the $125,000 offered by John D. Rockefeller.

**Spotted Fever More Fatal.**—The records of the health department show that while cerebrospinal meningitis is less prevalent since the weather has become warmer, the fatality has increased. In the ten weeks after the middle of March 369 cases were reported, with 285 deaths. From the beginning to the middle of May there were 96 new cases and 97 deaths from the disease.

**Physician Held for Performing Autopsy.**—Dr. I. O. Woodruff, Jr., head of one of the babies' pavilions at Bellevue, has been charged with performing an autopsy without consent of the next of kin on the body of a seven-months-old baby who died of typhoid fever. Dr. Woodruff claimed that the undertaker gave him permission, and thought as only three cases of this disease in infancy had been reported in medical annals, an autopsy would be helpful to science.

**Red Cross Hospital.**—The cornerstone of the American Red Cross Hospital was laid May 22 by William T. Wardwell, who gave the land on which the building is erected. The hospital is not new, though it has had to close its doors during the erection of the present building. The site is valued at $100,000, and the new building, which will be ready for occupancy in August, will cost $120,000. It was stated that the hospital would eliminate not only beer, but all alcoholics, which might be used as a regular part of hospital diet.

**Health in the Schools.**—This was the subject discussed at the regular meeting of the New York Academy of Medicine on May 24. Dr. J. J. Cronin, assistant chief sanitary inspector, read a paper on "Health of the New York School Child from the Point of View of the Department of Health." Dr. Maxwell stated that no child should be allowed to attend school until 7 years of age. Dr. Abraham Jacobi thought the money expended for the military and pensions might be used to better advantage for the schools. Dr. J. G. Freeman hoped that the time would come when a midday meal would be provided for the schools, as was done in Paris. Dr. Henry Dwight Chapin said that physicians were generally agreed that the large majority of New York children were under-developed.

More sleep and better hygienic surroundings were needed. He hoped the time would come when the teeth of the school children would be attended to, as the eyes, noses and throats are at present.

**Contagious Diseases.**—There were reported to the sanitary bureau for the week ended May 19, 1,252 cases of measles, with 37 deaths; 383 cases of tuberculosis, with 193 deaths; 370 cases of diphtheria, with 54 deaths; 305 cases of scarlet fever, with 28 deaths; 37 cases of whooping-cough, with 5 deaths; 31 cases of cerebrospinal meningitis, with 32 deaths; 15 cases of typhoid fever, with 4 deaths, and 83 cases of varicella, making a total of 2,476 cases, with 353 deaths.

**Personal.**—Dr. Stephen G. Cook, for 20 years police surgeon and for many years president of the board of police surgeons, has applied to be retired on account of failing health. ——Dr. Austin Flint, one of the oldest medical instructors in the country, received a silver loving-cup from the class of 1909, Cornell University Medical School, on the occasion of his resignation of the professorship of physiology, which he held continuously since 1861.——Dr. and Mrs. Charles T. Poore and Dr. and Mrs. Thomas E. Satterthwaite sailed for Europe on the *Finland* on May 26.

## OKLAHOMA.

**Many Insane.**—The report of the superintendent of the Territorial Insane Hospital, Norman, shows that on May 7, 504 patients were registered at that institution, the highest mark in its record.

**Convicted of Manslaughter.**—Dr. John B. Irvin, Kaw City, because of killing Alpha Mann, a halfbreed Kaw Indian, has been found guilty of manslaughter, the penalty for which is not less than four years.

**County Society Secures Home.**—The Oklahoma County Medical Society has leased rooms in the new Martin Building, Oklahoma City, as its permanent headquarters. A room has been set aside for a medical library and pathologic museum.

**Personal.**—The governor has reappointed Dr. Benjamin F. Hamilton, Shawnee, and has appointed Drs. R. Hall, Pawhuska, and Edward F. Davis, Oklahoma City, as members of the commission to examine the Territorial Insane Hospital.—— Dr. Lewis T. Gooch has been elected alderman of the Third ward in Lawton.

## OREGON.

**Hospital News.**—The new St. Mary's Hospital, Astoria, was dedicated with proper ceremonies by Architect Christie, Portland, April 29.

**Alumni Election.**—At the annual meeting of the alumni of Willamette University, Medical Department, Salem, May 1, Dr. Elza D. Johnson, Portland, was elected president; Dr. W. W. Allen, Jefferson, secretary.

**Diphtheria in Portsmouth.**—Diphtheria is so prevalent in Portsmouth that the investigating committee has recommended that the school children of the city be examined each morning for two weeks and that in all suspicious cases special examination of the throat shall be made; that the school be thoroughly fumigated and disinfected once a week and that special officers be detailed to enforce quarantine regulations.

**State Health Association Formed.**—The Oregon State Health Association was organized at Portland, May 16. It is composed of state, county and city health officers, with county judges, mayors of incorporated towns and members of the service as honorary members. Dr. Edward P. Geary was made first president of the association; Dr. Esther C. Pole, vice-president, and Dr. Robert C. Yenney, secretary and treasurer, all of Portland.

**County and City Society Meeting.**—At the annual meeting of the Portland County and City Medical Society, May 17, Dr. Robert C. Yenney was unanimously elected president; Dr. Luther H. Hamilton, vice-president; Dr. Allen W. Smith, secretary; Dr. Joseph A. Pettit, treasurer, and Drs. Katherine C. Manon, Ernest F. Tucker and Arthur H. Johnson, councilors. In the annual report of the retiring president he dwelt especially on the admission into the society of 72 new members.

**Commencements.**—The forty-first annual commencement exercises of Willamette University, Medical Department, Salem, were held May 1, when a class of 14 obtained degrees.——The University of the State of Oregon, Medical Department, Portland, graduated a class of 16, April 30. Dr. Andrew C. Smith delivered the annual address on "The Duties of the Medical Citizen," Dr. George F. Wilson the charge to the graduates, and President P. L. Campbell of the University of Oregon conferred the degrees.

**State Association Meeting.**—The thirty-second annual meeting of the Oregon State Medical Association was held in Portland, May 15 and 16, under the presidency of Dr. George F. Wilson, Portland. Dr. Harry Lane, mayor of Portland, delivered the address of welcome to the visiting physicians, and Dr. Wilson in his presidential address devoted especial attention to organization, urging that physicians organize along broad and practical lines. The resolutions introduced by Dr. J. P. Tamiesie, recommending the establishment of state and national sanitoria for tuberculosis, were adopted with modifications. The following officers were elected: President, Dr. E. Barton Pickel, Medford; vice-presidents, Drs. John A. Reuter, The Dalles, H. M. Shaw, Ashland, and Edna D. Timms, Portland; treasurer, Dr. Amelia Ziegler, Portland; secretary, Dr. Luther H. Hamilton, Portland; delegate to the American Medical Association, Dr. Henry W. Coe, Portland; alternate, Dr. George F. Wilson, Portland, and councilors, Drs. Andrew C. Smith, Portland, and William J. May, Baker City. The Portland City and County Medical Society entertained the association at a banquet May 16, over which Dr. Henry W. Coe presided as toastmaster. The association adjourned to meet in Astoria in July, 1907.

## PENNSYLVANIA.

### Philadelphia.

**Money for Hospital.**—An entertainment given by patronesses of the Bryn Mawr Hospital, May 25, at the Merion club, realized $2,000 for the institution.

**Antiquack League.**—An antiquack league is in process of formation in this city, directed against irregular physicians, "patent-medicine" dealers, and all forms of quacks and charlatans. The league is headed by Drs. S. Solis-Cohen, Persifor Frazer and Henry Beates.

**Personal.**—Dr. John H. Brinton, professor of surgery in Jefferson Medical College, has tendered his resignation, to take effect at the end of the present college year.——Dr. Charles A. Groff was thrown from a trolley car May 23 and sustained a fracture of the left fibula.——Dr. Martha G. K. Schetky sailed for Europe May 24.——Dr. W. W. Keen was elected president of the American Baptist Missionary union at the meeting held in Dayton, Ohio, May 22.

**Hospital Site Purchased.**—At a meeting of the board of trustees of the Frankford Hospital May 25, announcement was made of the purchase for $37,000, of a new site at Frankford avenue, Franklin and Wakeling streets, covering an area 220 by 240 feet. A stone three-story house on the property will be used as an administration building. To this additional wings will be added. The report of the hospital shows that 1,300 cases have been treated in the institution in the last fifteen months.

**Women Physicians Banquet.**—The alumnæ of the Woman's Medical College held a banquet May 24, the largest in the history of the college. Graduates were present from San Francisco and Pasadena, Cal., Ontario, Seattle, Wash., and Manhattan, Kan. Dr. Mary Butler was toastmaster, and the following responded to toasts: Dr. Elizabeth Keller, Boston; Dr. Frances Baker, Media, Pa.; Dr. Mary Griscom, Philadelphia; Miss Agnes Repplier; Dr. Alice W. Tallant; Dr. Elizabeth Harden, Baltimore; Dr. Mary Evans, Pottstown; and Dr. Frances Bartlett, Philadelphia.

**Coroner to Probe Illicit Drug Trade.**—The coroner has taken steps to expose persons who sell drugs of a habit-producing character. This is done as a result of a death being reported to his office of a young woman, a victim of the cocain habit. It was learned by the deputy coroner that in certain sections of this city cocain, morphin and opium are sold, disguised as catarrh cures, and other proprietary remedies. The deputy purchased these materials, without difficulty, in half a dozen different stores, and examination by the coroner's physician revealed them to be composed of practically unadulterated cocain and morphin. As a result of the investigation several arrests have been made.

**Health Report.**—The total number of deaths reported for the week reached 519. This is a decrease of 48 from last week and an increase of 119 over the number in the corresponding period of last year. The principal causes of death were: Measles, 4; scarlet fever, 3; pertussis, 5; diphtheria, 10; meningitis, 2; consumption, 54; cancer, 29; apoplexy, 23; heart disease, 47; acute respiratory disease, 68; enteritis, 35; cirrhosis of the liver, 6; Bright's disease, 34; appendicitis, 7; suicide, 4; accidents, 23; and marasmus, 3. There were 381 cases of contagious disease reported, with 47 deaths, as compared with 428 cases and 48 deaths in the previous week. There were 255 cases of typhoid fever reported, with 33 deaths; in the previous week 309 cases of typhoid fever, with 48 deaths were reported.

**Medical Inspections for April.**—The report of the division of medical inspection of the bureau of health shows that the number of inspections made, excluding the schools, during the month, aggregated 6,295. The inspectors ordered 1,089 fumigations and examined 40 patients for special diagnosis. They made 4,921 visits to the schools throughout the city and excluded 786 children from attendance. They performed 479 fumigations, administered 224 injections of antitoxin, and collected 168 cultures for examination. During the month 5,775 inspections of milk were made, comprising 112,430 quarts. Of this number 170 quarts were condemned. Four of the examinations were chemical and 859 were microscopic. The division of disinfection of the bureau of health shows that the number of fumigations performed were for smallpox, 3; scarlet fever, 174; diphtheria, 333; typhoid fever, 176; tuberculosis, 213; miscellaneous, 1,417, and schools, 31.

**Scientific Sewage Disposal.**—A meeting of the water commission recently appointed by the mayor was held May 21, and plans to do away with the use of water ways, as open sewers, by the construction of a system of sanitary sewage disposal along modern scientific lines, were discussed. The commission's conference is preliminary to the action to be taken by the council's survey committee, which has before it the draft of an ordinance providing for a special sewage commission of five members, to be named by the mayor. Plans for such a system were drawn some years ago by Chief Webster of the survey bureau. He advocated a system of sewage-disposal independent of a system for surface and storm-water drainage. The plan is to construct intercepting sewers along the banks of the Delaware and Schuylkill rivers, with basins at the junction of the sewers in the southern part of the city, where the sewage is to be treated chemically and rendered bacteria free. In view of the great cost of the installment of such a plan, and the present expenditure of $25,000,000 for water filtration, the project will not be instituted until the completion of the filtration system and the repletion of the city's funds. It is thought that the adoption of plans herein set forth will pave the way for the compulsion by the state of the adoption of similar systems in all towns draining their sewage into the city's water supply.

## SOUTH CAROLINA.

**State Association Meeting.**—The annual meeting of the South Carolina Medical Association was held in Columbia, April 17, 18 and 19. Dr. Paul B. Barringer of the University of Virginia gave the public address on "The Drugs that Enslave," and Dr. W. T. English, Pittsburg, delivered an address on "Subsidiary Contributions to Medical Success." Drs. James L. Napier, Blenheim, and William M. Lester, Columbia, were re-elected, and Drs. William L. Mauldin, Greenville, and Harry H. Wyman, Aiken, elected members of the State Board of Medical Examiners. Dr. Paul M. Barringer of Virginia was made an honorary member of the society. The following officers were elected: President, Dr. T. Prioleau Whaley, Charleston; vice-presidents, Drs. W. P. Timmerman, Edgefield, Henry Holbeck, Columbia, and Michael G. Salley, Orangeburg; secretary, Dr. Walter Cheyne, Sumpter; treasurer, Dr. Charles P. Aimar, Charleston; councilors, Drs. Theodore G. Croft, Aiken, F. H. McLeod, Florence, Hugh R. Black, Spartansburg, James H. McIntosh, Columbia, and William B. Cox, Chester; associate editor of the *State Medical Journal*, Dr. J. Wilkinson Jervey, Greenville; delegate to the American Medical Association, Dr. J. H. Hamilton, Union, and delegate to the Medical Society of the State of North Carolina, Dr. William C. Black, Greenville.

## TEXAS.

**Northwestern Association Meeting.**—The Northwest Texas Medical Association and the Wise County Medical Society met in joint session in Decatur, May 8. The following officers were elected: President, Dr. John A. Embry, Decatur; vice-president, Dr. Wade H. Walker, Wichita Falls, and secretary and treasurer, Dr. L. H. Reeves, Decatur. The next meeting will be held in Decatur in October.

**Hospital News.**—One of the new buildings of the North Texas State Hospital, which will accommodate 200 patients, is completed, and the other two buildings, which will accommodate 300 additional patients, will be ready in 60 days.——Arrangements have been made with the Sisters' Hospital, Waco, for the care of injured or sick employés of the M., K. & T. System. Emergency or branch hospitals are to be established at Smithville and Greenville.——The Baptist Memorial Hospital, Dallas, which is being erected at a cost of $250,000, will, it is expected, be ready to receive patients in November.——The sanitarium of Drs. Arthur C. Scott and K. R. White, Temple, is to be enlarged by the erection of a two-story addition designed especially for surgical cases.

**State Association Meeting.**—The thirty-eighth annual convention of the State Medical Association of Texas was held in Fort Worth, April 24, 25 and 26, under the presidency of Dr. J. Edward Gilcreest, Gainesville. Mayor W. D. Harris delivered an address of welcome on behalf of the city, and Dr. Bacon Saunders, president of the Tarrant County Medical Society, welcomed the association on behalf of that organization. Dr. Gilcreest responded to the addresses of welcome. Among the important papers read in the section on state medicine were those by Dr. William S. Carter, Galveston, on "Education and Sanitation; Dr. John S. Lankford, San Antonio, on "Medical Supervision of Public Schools," and Dr. Frank Paschal, San Antonio, on "The Tuberculosis Problem in the State of Texas." The house of delegates discussed the question of desirable legislation for the protection of public health and endorsed the proposed anatomic bill. The president in his annual address spoke of the need of state medical inspection for public schools and of the better regulation of the licensure of physicians in the state. The annual oration was delivered by Dr. Milus M. Morely, Greenville, on "Diversion Is Essential for the Healthy Active Mind." Dr. E. C. Dudley, Chicago, presented a paper on "The Preservation of the Functions of the Broad Ligaments in Connection with Other Pelvic Operations," and Dr. George V. I. Brown, Milwaukee, a paper on 'Surgical Treatment of Hare-lip and Cleft Palate." The members of the Tarrant County Medical Association entertained the state association at a barbecue at Handley in which nearly a thousand physicians participated. The following officers were elected: Dr. Garland B. Foscue, Waco, president; Drs. F. P. Miller, El Paso, D. Stuart Wier, Beaumont, Andrew B. Small, Waxahachie, vice-presidents; Drs. Stephen T. Turner, El Paso, J. W. McCarver, Brownwood, Hatch W. Cummings, Hearne, Joseph H. McCracken, Mineral Wells, and Millington Smith, Sulphur Springs, councilors; Drs. J. T. Wilson, Sherman, Charles E. Cantrell, Greenville, Arthur C. Scott, Temple, Stephen T. Turner, El Paso, and Frank Paschal, San Antonio, delegates to the American Medical Association; Drs. John S. Turner, Terrell, Benjamin M. Worsham, Austin, Thomas F. Kittrell, Texarkana, M. L. Graves, Galveston, and Robert W. Knox, Houston, alternates; Dr. Samuel C. Red, Houston, trustee, and Dr. William S. Carter, Galveston, orator. A vote of thanks was tendered to Dr. George R. Tabor, state health officer, for his work in keeping the state free of yellow fever last year, also for limiting the spread of smallpox. The association adjourned to meet in Mineral Wells in 1907.

## UTAH.

**Personal.**—Dr. and Mrs. Everett O. Jones, Murray, left May 10 for a trip to Europe, and may return by way of the Pacific.——Dr. William R. Calderwood, Salt Lake City, has been appointed assistant physician of Salt Lake County, vice the late Dr. James Osterman.

**Will Establish Medical School.**—At a special meeting of the board of regents of the University of Utah, April 13, it was decided to establish a medical school as a regular part of the institution. Prof. R. V. Chamberlain was elected dean and the regents authorized the establishment of a faculty of 15.

**County Medical Society.**—At the annual meeting of the Utah County Medical Society, May 2, in Provo, the following officers were elected: President, Dr. Robert E. Steele, Lehi City; vice-president, Dr. George E. Robinson, Provo; secretary and treasurer, Dr. Frederic Clift, Provo (re-elected), and censors, Drs. Westwood, John W. Aird and Fred W. Taylor, of Provo.

**Warning Against Spotted Fever.**—Dr. Theodore B. Beatty, Salt Lake City, secretary of the State Board of Health, on May 11 instructed the health officers of Bingham and Murray to isolate patients suffering from cerebrospinal meningitis. Several deaths from the disease are reported to have occurred recently in Salt Lake City, and Dr. Beatty considers that extra precautions should be taken to prevent the spread of the disease.

**State Society Meeting.**—The Utah State Medical Association convened for its twelfth annual meeting at Salt Lake City, May 8, under the presidency of Dr. Emerson F. Root, Salt Lake City. About 250 were in attendance. The president in his annual address gave a retrospective view of the medical conditions in Utah during the days when it was a territory, and laid stress on the present conditions existing, the large number of hospitals and medical institutions in the state, and predicted that a second medical college would soon be needed. The following officers were elected: Dr. Frederic Clift, Provo, president; Drs. Augustus C. Behle, Salt Lake City, and Edward M. Conroy, Ogden, vice-presidents; Dr. Walter S. Ellerbeck,

Salt Lake City, secretary, and Dr. James N. Harrison, Salt Lake City, treasurer. Drs. John W. Aird, Provo, and Philo E. Jones and Ira A. E. Lyons, Salt Lake City, were chosen as trustees. The association voted $200 for the relief of physicians in San Francisco and $50 for the N. S. Davis memorial. It was decided that a committee should be appointed for the purpose of revising the constitution and by-laws to conform to the plan recommended by the American Medical Association. The association voted to accept the proposition of the *Utah and Denver Medical Journal* for the publication of the transactions of the organization. The Cache Valley Medical Society was recognized as a component branch of the association. In the evening a banquet was given to the association by the local members, at which Dr. Eugene W. Whitney presided as toastmaster. It was decided to hold the next meeting in Salt Lake City.

## GENERAL.

**Supplement.**—A loose supplement accompanies this issue of THE JOURNAL, containing a photograph of Dr. W. J. Mayo, the president-elect of the American Medical Association.

**Vacancies in the Army Medical Corps.**—A preliminary examination of applicants for appointment in the medical corps of the Army will be held at various military posts throughout the United States on July 31, 1906. Full information in regard thereto may be obtained from the surgeon general of the Army. Applications must be filed prior to June 30. Thirty years is the prescribed maximum age, and individuals whose age exceeds that limit are not eligible for examination.

**Does Not Want to be Governor.**—The newspapers of Kentucky have been urging Dr. J. N. McCormack for governor of Kentucky, and for a while it appeared to be a foregone conclusion that he would be the next nominee of the Democratic party, which would mean election. But it seems that the doctor's name was used without his authority, for he has published a statement to the effect that he is not a candidate, and will not be. The following is from the Kentucky newspapers:

> Almost constant absence from the state for several months has prevented me from giving earlier attention to the kind statements by newspaper friends in many sections of the state that I would probably be a candidate for governor before the next convention or primary. It may seem unnecessary and somewhat indelicate to decline an honor which has never been tendered me, but I am receiving so many inquiries on the subject that it seems proper for me to speak. I not only will not be a candidate for this or any other office, but am absolutely without political aspirations not connected with medical and public health work.
>
> The rapid development in the field of preventive medicine, and the knowledge that almost half of the sickness and deaths in Kentucky every year are due to domestic pestilence, consumption, typhoid fever, diphtheria, scarlet fever, dysentery, cholera infantum and other communicable diseases, is arousing more and more popular attention every year, and will soon make the state board of health one of the most important and useful branches of the state government, and I have long since decided to devote the remainder of my days to this life-saving work. I am not the less grateful to my friends all over the state, in whose confidence and partiality this suggestion originated, and ask them to give their support to one better trained and qualified to succeed our great young governor."

**Health Report of the Isthmus for April.**—In his official report for April Dr. Gorgas calls attention to the constantly decreasing hospital sick rate among the employés. During the month there was an entire absence of any quarantinable disease, either smallpox, yellow fever or plague. There has been no case of plague since last August, no case of yellow fever since last December, and no smallpox during the preceding year. Among the civil population, not employés of the canal commission, the showing is equally as good. The death rate among 5,000 whites was 14 per 1,000, and among 22,000 negroes was 33 per 1,000; 6 white and 62 negro employés having died during the month. Pneumonia was by far the heaviest cause of death among the employés, 32 having died from this disease; of these 2 were whites and 30 were negroes. Malarial fever caused 7 deaths, a very much smaller number than any former month. All the deaths from malarial fever were among the negroes. Dysentery caused 6 deaths, 2 among the whites and 4 among the blacks. Of employés from the United States only 3 died, 1 from pneumonia, 1 from dysentery and 1 from accident. There has recently been criticism of the water furnished by the commission, and Dr. Gorgas calls attention to the small number of water-borne diseases this report shows among the employés, namely, 6 from dysentery and 2 from typhoid fever. In the civil population, outside of employés, there were 2 deaths from typhoid fever, 8 from dysentery and 19 from other intestinal diseases. This, considering the fact that the Isthmus is a tropical country, and the large proportion of the population who are children in the towns of Panama and Colon, is not a bad showing. This report, Dr. Gorgas states, is the most favorable one that the health department has been able to make since its establishment.

## CALIFORNIA.

### Books, Instruments, Etc., Needed.

In behalf of the physicians of San Francisco, we again make an appeal to our readers for books, instruments, etc. From private letters and from personal conversation with those who have been there and know actual conditions, we do not hesitate to say that there has never been a time when there was greater need for a practical illustration of fraternalism between physicians than there is at present. Most physicians have duplicate copies of books in good condition, books for which they have no use, bound volumes of journals, etc., which they can contribute without any self-sacrifice whatever. There need be no fear of getting too many copies of one book,for there are at least 500 physicians, besides the libraries, among whom to distribute such volumes. The plea for surgical instruments of all kinds is still being repeated. While THE JOURNAL will be glad to receive books, etc., to be forwarded, it will probably be just as satisfactory if those who have anything to contribute will send direct to the chairman of the committee on collection of books, instruments and medical supplies, Dr. Philip King Brown, Lane Hospital, corner of Clay and Webster streets, San Francisco.

### The California Relief Fund.

As will be noticed below, the contributions to the San Francisco relief fund now exceed $10,000; but it ought to be $100,000, and would be if those who are able to give realized the actual need of financial help at this time by the physicians of San Francisco. From information received we know that many societies are in course of collecting funds yet to be forwarded. While we are asking for "more" in behalf of the California physicians, we extend thanks for what has already been received.

### Pennsylvania Fund.

The following additional subscriptions have been received for the Pennsylvania fund since last week:

| | |
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| Center County Medical Society | $15.00 |
| Gardner, J. H., Stoystown | 1.00 |
| McKinley, H. C., Somerset | 1.00 |
| Northampton County Medical Society | 50.00 |
| Reber, Wendel, Philadelphia | 5.00 |
| Unaccounted | 5.00 |
| Wayne County Medical Society | 5.00 |
| Wilson, Henry | 1.00 |
| | $83.00 |
| Previously acknowledged | $1,916.50 |
| Total | $1,999.50 |

The following additional contributions have been received at THE JOURNAL office to Tuesday morning at 9 a. m.:

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| Academy of Medicine of Toledo and Lucas County | $100.00 |
| Bardin, Z. M., Lynchburg, S. C. | 2.00 |
| Bridgham, S. D., Walla Walla, Wash. | 5.00 |
| Crawford County Medical Society | 6.00 |
| Dodge, F. A., Le Suer, Minn. | 5.00 |
| El Paso County (Colo.) Medical Society | 60.00 |
| Fairfax, H. R., McComas, W. Va. | 5.00 |
| Gage, Homer, Worcester, Mass. | 10.00 |
| Howe, H. A., Chicago, Ill. | 1.00 |
| Kerr, Abram, Ithaca, N. Y. | 5.00 |
| Lincoln County Medical Society | 10.00 |
| Lundgren, C. E., Harris, Minn. | 2.00 |
| Mayer, L. H., Johnstown, Pa. | 2.00 |
| Monongalia County Medical Society | 50.00 |
| Morris, W. E. | 1.00 |
| Perkly, A. B., Morenci, Ariz. | 5.00 |
| Roberts, T. M. | 1.00 |
| Scott County Medical Society, Davenport, Iowa | 25.00 |
| Simpson, A. W., Washington, Ga. | 5.00 |
| Smith, F. C., New York City | 5.00 |
| Teschan, Rudolf C., Milwaukee, Wis. | 5.00 |
| Thompson, Harry French, Buffalo Center, Iowa | 10.00 |
| Thorn, J. W., Clio, Ark. | 2.00 |
| Tupper, A. M., Rockport, Mass. | 5.00 |
| Tuthill, A. M., Morenci, Ariz. | 5.00 |
| Washington, J. M., Van Buren, Mo. | 2.00 |
| Welst, Sard, Longmont, Colo | 5.00 |

Lafayette County (Wis.) Medical Society, $3.00:

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| Birkbeck, S. | $1.00 | Lehnkering, C. F. | $2.00 |

Lawrence County (Ind.) Medical Society, $12.00:

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|---|---|---|---|
| Byrns, J. D. | $1.00 | Sherwood, W. C. | $1.00 |
| Dings, W. H. | 1.00 | Shrum, Riley | 1.00 |
| Duncan, J. B. | 1.00 | Smith, W. H. | 1.00 |
| Emery, C. H. | 1.00 | Stipp, F. E. | 1.00 |
| Hunter, F. S. | 1.00 | Walls, G. W. | 1.00 |
| Kelly, J. C. | 1.00 | White, G. W. | 1.00 |

Pottawatomie County (Okla.) Medical Society, $11.00:

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|---|---|---|---|
| Anderson, R. M. | $1.00 | Rowland, V. D. | $1.00 |
| Bradford, W. C. | 1.00 | Sanders, T. S. | 1.00 |
| Douglas, G. B. | 1.00 | Sanborn, G. H. | 1.00 |
| Ellis, J. B. | 1.00 | Scott, J. H. | 1.00 |
| Frigg, J. M. | 1.00 | Walker, J. A. | 1.00 |
| Rice, E. E. | 1.00 | | |

St. Louis County Medical Society, $95.00:

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|---|---|---|---|
| Ayers, G. T. | $5.00 | Knauff, M. K. | $5.00 |
| Bray, C. W. | 5.00 | Keyes, C. R. | 3.00 |
| Bagley, W. R. | 1.00 | Lyman, F. | 2.00 |
| Boyer, S. D. | 1.00 | Linnerman, N. L. | 1.00 |
| Braden, A. J. | 5.00 | McCoy, M. | 1.00 |
| Collins, H. C. | 5.00 | McCuen, J. A. | 5.00 |
| Coventry, W. A. | 2.00 | Magie, W. H. | 5.00 |
| Davis, H. S. | 5.00 | Oredson, O. A. | 3.00 |
| Davis, G. W. | 2.00 | Parker, O. W. | 5.00 |
| Desiauriers, A. A. | 1.00 | Pare, L. T. | 2.00 |
| Greeley, L. Q. | 2.00 | Sewell, R. J. | 2.00 |
| Graham, D. | 5.00 | Taylor, A. C. | 5.00 |
| Hirschfield, M. S. | 3.00 | Walker, A. E. | 1.00 |
| Hoode, H. | 3.00 | Walker, H. | 5.00 |
| Jern, J. H. | 2.00 | Weston, J. B. | 3.00 |

Shawnee County (Kas.) Medical Society, $13.00:

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|---|---|---|---|
| Alkive, H. L. | $1.00 | McVey, W. E. | $1.00 |
| Andrews, A. S. | 1.00 | Powell, L. M. | 1.00 |
| Chamberlain, D. E. | 1.00 | Righter, W. H. | 1.00 |
| Eastman, B. D. | 1.00 | Taylor, N. J. | 1.00 |
| Lewis, J. P. | 1.00 | Wehr, W. A. | 1.00 |
| Lindsay, W. S. | 1.00 | Yates, W. W. | 1.00 |
| Minney, J. E. | 1.00 | | |

Buchanan County (Mo.) Medical Society, $35.00:

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| Bansbach, J. | Kenney, W. L. |
| Campbell, O. B. | Leonard, P. I. |
| Carpenter, S. F. | MaGill, W. J. |
| Dandurant, L. J. | Morton, Daniel. |
| Doyle, Thos. H. | Paulette, A. W. |
| Doyle, T. M. | Potter, T. E. |
| Dunsmore, J. M. | Sampson, C. M. |
| Elam, W. T. | Sampson, J. H. |
| Fassett, C. W. | Spencer, Floyd H. |
| Forgrave, L. R. | Smith, B. H. |
| Geiger, Jacob. | Timerman, A. R. |
| Geiger, G. G. | Todd, L. A. |
| Gleaves, O. G. | Wallace, C. H. |
| Good, C. A. | Walker, H. L. |
| Gray, A. L. | Wallis, William. |
| Heddens, J. W. | Willman, R. |
| Kessler, S. F. | Woodson, C. R. |

Cabell County Medical Society, $17.00:

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| Bloss, J. R. | Hawes, C. M. |
| Brown, C. M. | Hicks, W. D. |
| Brown, J. D. | LeSage, I. R. |
| Bruns, W. F. | Moore, T. W. |
| Buffington, E. S. | Price, S. D. |
| Crary, A. | Sanns, H. V. |
| Enslow, C. R. | Swann, P. H. |
| Geiger, J. C. | Vickers, R. E. |
| Guthrie, J. A. | |

Whitman County (Wash.) Medical Society, $45.00:

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| Benson, John. | Holzer, D. A. |
| Bumgarner, C. S. | Johnston, Wilson. |
| Greene, H. M. | Post, C. M. |

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| Total | $ 570.00 |
| Additional Pennsylvania contributions | 83.00 |
| Previously acknowledged | 9,531.40 |
| Grand total | $10,184.40 |

## FOREIGN.

**Queensland Leper Lazarette.**—The government has decided to remove the lazarette from its present position near Dunwich, on Stradbroke Island, to Amity Point. The *Australasian Medical Gazette* states that it is probable that the lazarette on Friday Island will be closed, and the inmates removed to Amity Point. The new lazarette will be in two establishments, one for whites and the other for colored patients.

**Damages for Roentgen Ray Burn.**—Prof. G. Holzknecht of Vienna is one of the leading authorities and experts in Roentgen ray work, and has long been the official Roentgen ray medicolegal expert for the courts of Austria and director of the Roentgen ray department of the Vienna General Hospital. A cable report states that he was sued for damages of $7,500 on account of a serious *x*-ray burn resulting from his therapeutic application of the rays in 1902 in treatment of a cutaneous affection on the back of a male patient. There was no insinuation as to carelessness or neglect, but the court awarded the plaintiff the damages asked.

**Syphilis of the Lungs.**—Stoicescu and Bacacoglu of Roumania assert that syphilis of the lungs is liable to simulate tuberculosis of the lungs or pneumonia, pleurisy, chronic bronchitis or bronchiectasia. It probably is often mistaken for one of these affections, but mixed specific treatment is liable to do wonders. The trouble is usually a gumma which in time, untreated, entails a cavity and sclerosis. It is liable to develop in children with inherited syphilis as well as in adults. The treatment found most promptly effectual was daily inunctions with 4 gm. of blue ointment and administration of potassium iodid in progressive doses of 4 to 12 gm. a day. An abstract of their original article in a Roumanian paper is published in the *Muench. med. Wochft.* for March 27, No. 13.

# *Insurance Fees and Lodge Practice*

### The Recent Reduction in Fees.

UNION P. O., LA., May 22, 1906.

*To the Editor:*—The question of fees for life insurance examinations is up for discussion and final settlement, and it should be settled right once for all, so that it may not be continually bobbing up in the future as a half-finished question.

Whether or not life insurance is now an honest enterprise may well be considered debatable. That it was so at one time may be allowed, but the recent probing into the *modus operandi* of these large corporations has demonstrated beyond all reasonable doubt that the original purpose for which they were brought into existence has lapsed or been lost sight of, and that they are now nothing more or less than immense aggregations of capital, that are being manipulated for the benefit of those who may obtain control of the management.

Mr. Lawson's advice in regard to the other large industrial enterprises might well apply to these, and it is doubtless true that the general public has ceased to invest in their stock as extensively as in the past. Whether or not the investment in a policy of any life insurance society under the existing régime is sound business would seem rather doubtful, and if no one purchased life insurance these corporations would of necessity soon go out of business. Mr. Lawson's statement that the promoters of industrial corporations, organized for the sole purpose of fleecing the general public, would cease to be when there was no longer a market for their fictitious wares becomes a self-evident proposition.

As a side light on this question is the medical examination fee which the various companies have suddenly discovered must be curtailed 40 per cent. in line with other proposed economics. If the interests of the policy-holders were being considered as is now the main contention, then their interests have been daily neglected, lo these many years, for the necessity seems to have arisen quite recently. The New York Life began economizing with its medical staff of examiners some years ago in the same way that is now proposed by the others, yet its policy-holders not only did not benefit thereby, but fared worse.

I venture the following statement, with full understanding of its import: I would not, as a simple business proposition, leaving out many other equally weighty considerations, invest money in a life insurance corporation that could not employ and pay full prices for the best medical talent to make its examinations; that did not always require a full urinary examination, and that did not use every means that medical science places at its disposal to secure favorable risks. The last place to economize for the benefit of the policy-holders is in the pay of those who stand between the unfavorable risk and the treasury of the company.

That medical men will be found to make examinations for $3, $2 or even $1, and in job lots at 50 cents each, is probable, but that any legitimate business enterprise can be conducted in this way is very unlikely.

There are in every community some physicians who reach out for everything available, by fair means or foul. They do fake work, cut prices, take any kind of questionable business that comes along, just so long as there is a dollar in it, and would drag the medical profession down into the mire, if it were not for counteracting influences. But these are not the men whom the respectable element of society or those with valuable business interests usually employ when in need of counsel.

I trust that the American Medical Association, at its next meeting, will take the stand for a flat examination fee of $5.

B. A. COLOMB, M.D.

### Reduction in Fees an Injustice to the Physician.

CRESCENT CITY, CAL., May 23, 1906.

*To the Editor:*—I have been much interested in the communications recently published by you in relation to the examination fees for life insurance, and I think abundant argument has been adduced to convince any fair-minded person that any reduction in fees from the old scale is both unjust to the physician and detrimental to the best interests of the policy-holders.

Thirty years ago I received my degree and entered the practice of medicine and surgery, which I have continued until the present time; not a year having passed that I have not had more or less examining to do for nearly all the old-line companies. In fact, during a part of the first three years I traveled with one of the best life-insurance agents on the Pacific coast and did nothing but examine. I have given the matter of life-insurance work special study, and think I am fairly competent to say what a reasonable fee is for the professional knowledge and skill required in an intelligent and honest examination.

It seems strange to me that physicians not in sympathy with the reduction (and there certainly can not be many who are), are waiting for medical organizations to say whether or not they will submit to the cut. The consciousness of being right and reasonable should be all any high-minded physician, who scorns the idea of being a "cheap John" man should need to prompt him in at once to refuse to submit to the reduction.

When I was notified several years ago by one of the leading eastern companies that thereafter I would be allowed only $3 for an examination, I promptly notified them to revoke my commission. They very promptly replied, saying that owing to my past services and our very satisfactory relations in the work, they would make an exception in my case, and that I should continue as their examiner at the old rate of $5. I have done considerable work for the company since and my bills have been paid without a protest.

Recently I have been notified by circular letters by other companies to the effect that they would make a grading of fees from $3 up, according to the size of the policy applied for. In response to them I simply advised them that my minimum fee for examination is $5, and if that is not satisfactory to them they may erase my name from their list of examiners. I have not heard from them since.

We are not a labor union that must be organized to strike, nor do we want to be considered as such and shut out arbitrarily by a few arrogant insurance nabobs. It is well enough for medical societies to pass and to adopt resolutions protesting against arbitrary dictation of insurance companies, but there is a large percentage of practicing physicians throughout the United States who do not belong to any society, and I appeal to the manhood and professional dignity of those men and ask them to act independently in refusing to accept a "picayune" fee for a high-grade service.

GEORGE J. BROWN, M.D.

### "An Effort to Repress the Evils of Contract Practice."

A correspondent writes: "The Niagara Falls Academy of Medicine is circulating a petition which is to repress the evil of contract and lodge practice which so belittles and degrades the profession. It is to be hoped that this degradation to commercialism in medicine will be effectually checked in Niagara Falls, New York and elsewhere. It would be well for the profession in larger cities, especially those in which there is a large foreign element, to follow the example of Niagara Falls, Let there be no honorable place in the medical profession for one who will so far degrade himself as to sell himself into bondage for a *per capita* price of from 75 cents to $1 per lodge member and signify his willingness to answer all calls. No conscientious well-educated physician can afford to accept such a contract. No freeman can ask from our profession such worthless services."

### Societies Take Action.

DOCTORS' CLUB OF CHARLOTTESVILLE.

CHARLOTTESVILLE, VA., May 21, 1906.

*To the Editor:*—I inclose a blank to be used by our members in pursuance of a resolution adopted by the Doctors' Club of this city. I am happy to say that only one man has declined to live up to it, and we hope he will reconsider the matter. The Piedmont Medical Society, composed of the most prominent physicians in four or five adjoining counties, has passed a similar resolution. Dr. McCormack is doing a good work for the honor and dignity of our profession.

*To the ..... Life Insurance Company.*

*Gentlemen:*—At a meeting of the Doctors' Club of Charlottesville, Va., on April 27, 1906, the following resolution was adopted:

*Resolved*, That it is the sense of the Charlottesville Doctors' Club that its members shall examine no applicant for Life Insurance for a less sum than $5, his fee to be paid direct by the Company—and that any member who examines for less stands expelled from the society without further action on the part of the society. This resolution does not apply to industrial insurance nor to companies not requiring a physical examination.

In compliance with the above resolution I hereby respectfully tender my resignation as examiner for your company after thirty days from date, unless I receive communication from the company, instructing me to make your examinations at the uniform rate of five dollars for the examination. Very respectfully, —— M.D.

J. H. BROWNING, M.D.

NORTH DAKOTA MEDICAL ASSOCIATION.

At the annual meeting of the North Dakota Medical Association at Fargo, May 16-17, 1906, the following resolution was unanimously adopted:

*Resolved*, That we endorse the action of the physicians of the Sixth District Medical Society in adopting a schedule of fees commensurate with the time required in such examinations; and

Believing that the duties of insurance medical examiners require a high degree of professional skill, absolute integrity and special attention to the interests of the insurance companies, we do hereby pledge ourselves to exercise skill and care in all examinations and to make no discrimination in examinations or fees to different companies, and further agree to be governed by the following schedule of fees:

$5.00 for each ordinary examination, including urinalysis.

$10.00 for each examination where microscopic examination of urine, sputum or other secretion is required.

$3.00 for each certificate of health for renewal of lapsed policy.

SCREVEN COUNTY (GA.) MEDICAL SOCIETY.

At a meeting of this society, held March 21, the following resolutions were passed:

WHEREAS, The Screven County Medical Society, after due deliberation, finds that a fee of less than $5 for life-insurance examinations is not commensurate with the work done; therefore be it

*Resolved* (1), That we, the members of the Screven County Medical Society, refuse to make any more life-insurance examinations for less than $5.

(2) That a copy of this resolution be sent to THE JOURNAL of the American Medical Association for publication, and also that a copy be sent to each of the old-line insurance companies.

OTHER COUNTY SOCIETIES.

At a meeting of the Troup County (Ga.) Medical Society, May 10, a resolution was adopted making the minimum fee for life-insurance examinations $5.

Similar resolutions were passed by the Fayette County (Pa.) Medical Society and the Cochise County (Ariz.) Medical Society.

At a regular meeting, held in Camden, April 3, the Medical Society of the County of Wilcox (Ala.) unanimously adopted a resolution making the fee for each life insurance examination $5, and deciding that under no circumstance would this rule be deviated from.

## *Correspondence*

### Cheaper Antitoxin.

CHICAGO, May 21, 1906.

*To the Editor:*—The statements in THE JOURNAL, May 12, page 1449, that the Memorial Institute for Infectious Diseases is said to be supplying antitoxin to the city for $1.50 per 3000 units as against $5.25, the sum charged by the alleged antitoxin trust, is misleading, as it compares the purchasing price of the Memorial Institute with the retail price to the general public of the other producers of antitoxin. The statement was not taken from the Chicago *Health Department Bulletin*, nor did the statement come from me.

The correction of the above statement in THE JOURNAL for May 19, page 1533, gives our purchase and selling prices correctly, $1.50 and $2.25 per 3000 units, and states that other firms have offered the Department of Health antitoxin at practically the same price. This latter statement is true also, but there is a story behind it. All the large producers about the first of the year 1904 doubled the price of antitoxin, not only to the public, but to the Department of Health of Chicago. They offered "Board of Health Serum" after a time at a low figure, but this "Board of Health Serum" had been branded by one of the high price firms as "inferior," and of course we could not consider the use of this antitoxin, as nothing but the

best can find a market in the Department of Health of Chicago. Not until within a few months has any of the high-priced firms offered to sell us the high grade product at the reduced price—not until we secured two ample sources of supply—the New York Department of Health, and the Memorial Institute for Infectious Diseases.

That there may be no further misunderstanding among physicians as to what I said in the Annual Report of the Department of Health on the subject of antitoxin, from which newspapers have quoted, and in some instances conveyed the wrong meaning, I wish you would publish the article entire, as this is all I have said on the subject at any time or place. It reads as follows:

The control of diphtheria and the saving of life depends largely on the early and liberal use of antitoxin. The almost prohibitory price of antitoxin established by the commercial houses has been and continues to be responsible for many deaths from this cause. Numerous examples which go to prove this assertion have been observed. A man earning by hard work $2 a day with seven in family "to feed, house, clothe and school, finds three of his children complaining with sore throat. He calls a doctor, who suspects diphtheria. The father is told that it is best to give antitoxin at once and not wait for proof by microscopic examination. The cost of the first dose for the three children is $15, besides the doctor's fee. The doctor is not able to say positively at the moment that the cases are diphtheria and the man hesitates to pay out $15 on an uncertainty. The doctor is dismissed and goes away with a tortured mind. Two days later another doctor is called. The diagnosis is easy now. Antitoxin enough to use up the earnings of a month's labor is used, but too late—death claims two of the neglected children. If antitoxin were sold at a reasonable price such instances as just related would be exceedingly rare. When I related this instance to the agent of one of the high-priced producers of antitoxin, he replied that "the remedy is cheaper than coffins." And so we learn that the price of antitoxin is governed not by the cost of production, but by the price of coffins. The Department of Health will furnish anyone antitoxin at half the manufacturers' present price and if need be furnish the remedy free, but many do not know this, and others with a self-supporting though meager income hesitate to receive charity, and while they hesitate to seek the aid of charity or to pay two prices for a life-saving remedy, diphtheria is doing its deadly work on the innocent.

We can hardly blame a hard-working man who has a large family and a small income if he hesitates to pay $5 a dose for antitoxin when there is a doubt about the diagnosis, as often there is in the early stage of diphtheria. It is the difficulty of early diagnosis and the high price of antitoxin combined which delays the administration of the remedy and is responsible for many needless deaths from this disease. Antitoxin should be as cheap and as free as vaccine. Diphtheria, like smallpox, has been robbed of its terrors by science, but without the intelligent application of the remedies deaths from these diseases will be recorded as before the discoveries were made. Commercialism can be justly charged with the crime of delaying the application of one of these remedies. The public good is paying tribute to private greed.

What is the remedy? It is plain to the sanitarian for he has learned that a life lost is money lost. It is plain to the sanitarian that it would be true economy for a state or a city to establish and maintain laboratories for the production of antitoxin and vaccine to be distributed free to the people for protective and curative purposes. It is difficult for the sanitarian to demonstrate to law makers the wisdom and economy of spending money for saving human lives, but if these diseases were menacing the lives of hogs or cattle there would be less trouble in securing attention from such bodies. The law-making assemblies of this country have spent more time, money and thought on methods and means for saving from disease animals having a commercial value than they ever have for safe-guarding human life. The farmers of this country, through the teachings of the Department of Agriculture, understand animal dietetics and are taught how to prevent and cure diseases in marketable animals. They are taught little from any source how to protect themselves from disease or premature death. The burden of teaching people how to observe the laws of health and hygiene falls on the medical profession—the only body of men in the world that constantly and without regret works against its own financial interests. The physician unceasingly works to keep away epidemics and by advice and warning and by the discovery and application of remedies contributes materially to the health and longevity of the human race.

There is nothing unreasonable in calling on the city or state to aid in applying the remedies discovered and freely given to the people by the physicians. The physicians are reaping no pecuniary reward from the use of vaccine or antitoxin; on the contrary, their visits to the bedside of smallpox and diphtheria cases would be increased manifold if these two remedies were not known. Then why should commercial houses be permitted to reap a harvest from the discoveries made by physicians who have given them without price for the benefit of humanity? Antitoxin and vaccine could be produced at the state university at a minimum cost, which would be far less than is now paid to commercial houses. Not alone money but lives would be saved by placing the price of antitoxin within easy reach of all. Let Illinois keep pace with New York and Massachusetts and begin the manufacture of antitoxin and vaccine at once. It has been demonstrated during the last five years that vaccine properly used renders a person absolutely immune to smallpox. More than 2,000 exposures to smallpox were made at the Isolation Hospital without a single case resulting, thus demonstrating the complete protection from this disease afforded by vaccination when the remedy is properly used. Antitoxin, when early, freely and intelligently used, will render diphtheria practically harmless. The proper application of the remedy awaits the action of the city or state to free us from prohibitory prices.

HEMAN SPALDING, M.D.,
Chief Medical Inspector Chicago Department of Health.

## The McBurney Incision in Appendicitis with Abscess.

NEW YORK, May 22, 1906.

*To the Editor:*—In THE JOURNAL, May 19, 1906, Dr. J. E. Summers says, on page 1510: "I have done the McBurney incision in hundreds of patients, a few of these being pus cases, but it is a dangerous incision for this latter class, even in the hands of the most experienced." My own experience has been so directly at variance with this statement that it seems best to go on record in the matter. For some years I have employed the McBurney incision almost exclusively in all sorts of appendicitis work, pus cases, general septic peritonitis and all the complications that one commonly runs across. If one uses a short McBurney incision in his pus cases, working rapidly by touch instead of by sight, avoiding gauze packing and all drains except a small wick, avoiding counter-openings and other unnecessary procedure, "leaving his patient as nearly alone as possible," and making it a rule to have the entire operation completed in from five to fifteen minutes, I think that he can keep his death rate within 5 per cent. in cases in which infection has invaded structures beyond the appendix. There are very few fields in abdominal surgery in which I can keep the death rate and the hernia rate lower than in appendicitis with abscess in my own practice, and I count the McBurney incision as one of the prime factors. ROBERT T. MORRIS, M.D.

616 Madison Avenue.

## Bats as Bedbug Carriers.

PASADENA, CAL., May 18, 1906.

*To the Editor:*—The editorial in THE JOURNAL, March 17, 1906, page 804, on "Bedbugs and Disease Possibilities," interested me greatly. The reference to small animals as their source of food supply reminds me that when I resided in New York City a small bat that came into my rooms was covered with genuine bedbugs. These were especially numerous under the wings. It seems to me that this little animal could be a very great source of danger as a carrier of disease, as he has free access to our bedrooms, frequently coming directly from the worst lofts or hovels, or even pesthouses. Since this bug-infected bat came to me I have looked on these animals as a sure means of spreading bedbugs themselves. If these bugs are able to transmit infectious diseases, it causes a little animal otherwise not only harmless but in several ways useful to be a great source of danger. I have not seen any mention of the bat being a possible carrier of disease.

EDWIN R. CHADBOURNE.

## The Country Doctor.

WARE, MASS., May 24, 1906.

*To the Editor:*—In the article on "The Country Doctor," in THE JOURNAL, May 19, the author, Dr. John G. Wilson, in my opinion, has overshot the mark; while recognizing a vein of truth in what he says, I consider that some of his statements certainly need qualifying.

The man does not live who has the time and the ability to do good work in surgery, bacteriology, chemical analysis and refraction and attend to a general practice of any size at the same time. The physician who is dependent on his practice for a living must first attend to that part of his work which brings in some adequate return for time spent, and this is more than can be said for most chemical and bacteriologic work as done by the general practitioner. The results of such work are as often negative as positive in the hands of even the most expert. The average patient does not appreciate and will not pay for hours spent in the laboratory, especially if no definite knowledge is gained thereby. While the careful scientific physician is delving in his laboratory his showy, smooth-tongued neighbor is making calls and pocketing two dollars to his one.

The claim that any physician who is capable of making a diagnosis of appendicitis should also be capable of operating is not well founded to say the least. Pray, are years of constant and almost exclusive study and practice of surgical technic to count nothing? It is continuous practice which enables one to do really good work in surgery; and this is well nigh impossible for the general practitioner remote from

hospitals to have. I am a country doctor. I do the minor surgery that comes my way, and in emergency a laparotomy or an amputation. I am fairly well equipped for bacteriologic work and chemical analysis of stomach contents, and can do both. I have a first-class static machine and *x*-ray equipment for skin work, skiagraphy, etc., and have had good results, but not more than one-tenth of my income is derived from all of these combined. So much for my experience. I should be glad to hear from others.

It may be that this community is less favorable for such work than others. I am inclined to think that this is the case.

M. W. PEARSON.

## *Association News*

### Extension of Return Limit to Pacific Coast and Mexico.

The Trunk Line Association announces that by deposit of ticket in person by original purchaser with validating agent not later than June 18, and payment of fee of $1 at time of deposit, an extension of return limit may be obtained to leave Boston to July 31.

### Lake Transportation Between Detroit and Buffalo.

All rail tickets reading between Detroit and Buffalo over the Michigan Central, Grand Trunk and Wabash railways are optional for transportation between Detroit and Buffalo via the Detroit & Buffalo Steamboat Company. Those who wish to take advantage of this can secure reservations by applying to A. A. Schantz, Detroit, general superintendent Detroit & Buffalo Steamboat Company.

### NEW MEMBERS.

List of new members in the American Medical Association from May 1 to May 28, 1906:

#### ALABAMA.

Jenkins, L. A., Cardiff.
Thorington, Chilton, Montgomery.
Upchurch, H. B., Carrollton.
Williams, J. H., Columbiana.

#### ARIZONA.

Flinn, John William, Prescott.

#### ARKANSAS.

Cunning, John R., Lonoke.
Corrigan, Michael B., Monticello.
Gaddy, L., Atkins.
Gray, Oscar, Little Rock.
Mount, M. F., Hot Springs.
Parker, James, De Vails Bluff.
Pate, C. N., Ft. Smith.
Pettus, C. S., El Dorado.
York, Wm. W., Ashdown.

#### CALIFORNIA.

Munger, Curtis Boyd, San Francisco.
Power, W. B., Redlands.
Sherrard, E. E., Los Angeles.
Turner, Wm. D., Pasadena.

#### COLORADO.

Beggs, Wm. N., Denver.
Broman, Oscar Francis, Greeley.
Hick, Lawrence A., Delta.
Knox, Chas. Randall, Boulder.
Nelson, Geo. E., New Windsor.

#### CONNECTICUT.

Coyle, William J., Windsor Locks.
Dart, F. H., Nantis, P. O.
English, R. M., Danbury.
Hammond, H. L., Danville.
Hillis, Laura H., Willimantic.
Lawson, Geo. N., Middle Haddam.
Lewis, D. M., New Haven.
Porter, Wm., Jr., Hartford.
Rice, Watson E., Stamford.
Travis, Catherine H., New Britain.
Walsh, Frederick W., Rockville.
Welch, W. C., New Haven.
Whitney, C. F., Norwich.

#### DELAWARE.

Briggs, H. W., Wilmington.
Buckmaster, H. G., Wilmington.
Cochran, M. F., Wilmington.
Pearson, G. Burton, Middletown.
Spruance, J. H., Wilmington.
Tyhout, R. Raymond, Wilmington.
Wales, J. P., Wilmington.

#### DISTRICT OF COLUMBIA.

Anderson, John F., Washington.
Heitmuller, Geo. H., Washington.
Kean, J. R., Washington.
Rogers, Jos. D., Washington.

#### GEORGIA.

Chisholm, J. F., Savannah.
Crane, C. W., Augusta.
Hammond, L. P., Rome.
Hogg, A. R., Senoia.
Longino, T. D., Atlanta.
Moore, G. Y., Cuthbert.
Pattillo, Geo. R., Culverton.
Turner, H. A., Lindale.
Underwood, J. M., LaFayette.
Watts, James C., Rome.
Webb, F. L., Macon.

#### IDAHO.

Rains, Jesse L., Grangeville.
Reynolds, J. L., Albion.
Monroe, Jas., Hagerman.

#### ILLINOIS.

Ballinger, J. R., Chicago.
Barryte, Evan L., Chicago.
Bingley, M. A., Chicago.
Burr, A. H., Chicago.
Davis, David John, Chicago.
Dodge, W. E., Chicago.
Edwards, Frank H., Evanston.
Fischer, W. D., Chicago.
Garwood, J. P., Princeton.
Griswold, W. C., Princeton.
Hoff, Weller H., Paris.
Howe, Harriette A. Chicago.
John, F. D., Chicago.
Jones, Martin D., Chicago.
Lane, R. N., Danville.
Lee, W. George, Chicago.
Murphy, N. A., Paris.
Patton, C. L., Springfield.
Sedimair, Frank H., Bremen.
Van Dersilce, J. W., Chicago.
Vopata, W. J., Chicago.
Whitmer, L. W., Chicago.
Wood, H. W., Sheldon.
Worthington, H. C., Oak Park.

#### INDIANA.

Buxton, E. J., Rockport.
Cox, N. D., Spencer.
Crumpacker, C. B., South Bend.
Doolittle, B. U., Ft. Wayne.
Dowden, C. W., West Baden.
Elliott, R. M., Needham.
Gardner, Fletcher, Bloomington.
Gilkison, John S., Burns City.
Hicks, Leora F., Stilesville.
Kreider, Martin K., Goshen.
Lemon, H. K., Goshen.
Monsen, J. D., Lafayette.
Moore, E. P., South Bend.
Troutman, Rodney E., Logansport.
Yencer, Martin W., Boston.

#### INDIAN TERRITORY.

Hilsmeyer, F. E., Weleetka.
Jones, W. E., Potean.
Vance, B. J., Checotah.

#### IOWA.

Besore, A. L., Carson.
Bliss, C. S., Renwick.
Chesebrough, Samuel, Atalissa.
Clark, S. W., Oskaloosa.
Croy, C. C., Bonaparte.
Daly, W. T., Cresco.
Hauck, S. L., Ottumwa.
Killeen, M. A., Dubuque.
McCrea, F. M., Eddyville.
Robb, J. B., Russell.
Sheafe, E. A., Ottumwa.
Wright, W. T., Denison.

#### KANSAS.

Beckner, E. J., Selden.
Brown, M. D., Lebo.
Buck, L. A., Peabody.
Chambers, H. L., Lecompton.
Fisher, C. E., Lyons.
Guinn, J. H., Arkansas City.
Hughes, J. F., Hartford.
Lutz, E. J., Salina.
Lagerstrom, F. G., Lindsborg.
Rader, J. A., Caney.
Searl, O. R., Belvue.
Shelton, W. L., Woodlawn.
Skoog, A. L., Parsons.
Tinder, C. R., Englevale.
Van Horn, C. B., Topeka.
Van Velzer, C. A., Ft. Scott.
Yandell, W. H., Piedmont.

#### KENTUCKY.

Bunhart, R. L., Fulton.
Scott, W. D., Georgetown.
Skinner, C., Louisville.

#### LOUISIANA.

Landrum, Jacob H., Eros.

#### MAINE.

Allen, J. H., Portland.
Bennet, E. H., Luber.
Black, Laura M., Saco.
Bumps, Wilbur A., Dexter.
Caldwell, J. C., Buckfield.
Davis, Gilman, Portland.
Doughty, J. W., Parker Head.
Downs, A. A., Fairfield.
Gilson, A. S., Portland.
Hagerthy, G. B., Bar Harbor.
Hale, L. L., Chebeague Island.
Hardy, T. E., North Vassalboro.
Hutchins, J. G., Stonington.
Kelley, D. H., Old Town.
Mansur, J. H., Mars Island.
Marston, E. P., Monmouth.
Oakes, W. K., Auburn.
Phillips, G. A., Bar Harbor.
Rice, Wm. E., Bath.
Russell, E. W., Lewiston.
Sawyer, W. G., Madison.
Silsby, E. B., Rockland.
Simmons, W. H., Bangor.
Skofield, E. B., Brunswick.
Snow, H. E., Bucksport.
Stilson, E. F., Damarescotta.
Sturtevant, A. H., Augusta.
Sturgis, B. F., Auburn.
Wakefield, R. W., Bar Harbor.
Walker, J. E., Thomastown.
Wardwell, M. A., Penobscot.
Warren, S. P., Portland.
Wasgatt, C. E., Deer Isle.
Weldman, S. Y., Rockport.
Weld, G. Gilmore, Old Town.
Whittier, F. N., Brunswick.

#### MARYLAND.

Greenbaum, H. S., Baltimore.
Latimer, G. W., Hyattsville.
McCarty, H. D., Baltimore.
McDonald, W. B., Baltimore.
Owens, C. L., Cumberland.
Rytina, A. C., Baltimore.

#### MASSACHUSETTS.

Adams, W. H., Northampton.
Allen, W. H., Mansfield.
Ames, J. L., Boston.
Bacon, J. E., Brockton.
Baldwin, H. C., Boston.
Boardman, W. E., Boston.
Bond, W. L., Somerville.
Brown, F. H., Boston.
Brown, W. E., North Adams.
Bruce, D. A., Quincy.
Carleton, D., Springfield.
Cavanaugh, T. E., Holyoke.
Chapin, F. W., Springfield.
Cheever, D. W., Boston.
Chisholm, M. D., Westfield.
Churchill, J. D., Plymouth.
Cleaves J. E., Medford.
Cogswell, Wm., Boston.
Cockett, Marguerite S., Boston.
Coffin, A. B., Boston.
Colburn, H. H., Boston.
Connor, C. F., New Bedford.
Coolidge, Algernon Jr., Boston.
Cumston, C. G., Boston.
Curry, E. F., Fall River.
Daniel, Vivian, Watertown.
Davis, Bessie D., Cambridge.
Derby, Hasket, Boston.
Dewey, C. G., Boston.
Donoghue, J. C., Boston.
Dow, G. F., Reading.
Drake, Wm. A., North Weymouth.
Duckering, Florence W., Boston.
Dunbar, F. H., Boston.
Durell, T. M., Somerville.
Durgin, S. H., Boston.
Dutton, S. L., Chelmsford.
Ellis, E. K., Boston.
Eveleth, C. W., Salem.
Field, M. T., Salem.
Finn, E. W., Dedham.
Fourten, E. R. P., Waltham.
Frazier, J. C., East Weymouth.
Gabler, G. L., Holyoke.
Gale, H. A., Winchester.
Goldsborough, M. W., Cambridge.
Granger, F. B., Boston.
Guild, E. H., Springfield.
Hanson, W. C., Cambridge.
Harkins, D. S., Boston.
Harriman, C. H., Whitinsville.
Haskell, Nelson C., Amherst.
Hatchett, W. J., Somerville.
Hill, G. S., Marblehead.
Howard, Amasa, Chelmsford.
Howe, Oliver Hunt, Cohasset.
Hunter, N. M., Hudson.
Hurley, J. J., Boston.
Jackson, O. H., Fall River.
Jones, L. A., North Adams.
Jouett, F. R., Cambridge.
Kearney, J. H., Fitchburg.
Keenan, H. J., So. Boston.
Kelley, D. J., Worcester.
Kennedy, E. A., Palmer.
Kerr, Isabelle D., Boston.
Knapp, P. C., Boston.
Lawrence, Nellie L., Boston.
Leahey, G. H. A., Lowell.
Leary, C. J., New Bedford.
Longfellow, H. N., Boston
Loring, R. P., Newton Center.
Lovell, C. E., Whitman.
Lowell, H. H., Boston.
McCaulay, A. A., Boston.
McDonald, J. A., Boston.
McGauran, G. D., Lawrence.
Mains, C. F., Boston.
Miller, J. P., Fitchburg.
Mullins, E. N., Baldwinville.
Musgrave, Percy, Boston.
Nason, A. C., Newburyport.
Nickerson, G. W., Stoneham.
Nolen, W. F., Boston.
Noyes, Margaret L., Boston.
O'Brien, J. J., Dorchester Center.
O'Brien, J. J., Dorchester Center.
O'Day, G. F., Worcester.
Ordway, Mabel D., Boston.
Oviatt, G. A., South Sudbury.
Parcher, Geo. C., Saugus.
Perry, H. B., Northampton.
Pierce, F. B., Haverhill.
Pike, F. F., Melrose.
Pinkham, J. G., Lynn.
Pomeroy, H. S., Boston.
Prescott, H. D., New Bedford.
Provandee, P. H., Melrose.
Putnam, Ralph, Winchester.
Quinby, S. F., Gloucester.
Record, Wellington, Wollaston.
Rice, A. H., Boston.
Rich, Chas. E., Lynn.
Roble, W. F., Baldwinville.
Rodgers, C. W., Boston.
Russell, W. B., Springfield.
Sabine, G. K., Brookline.
Sanger, G. E., Arlington.
Sargent, G. B., Boston.
Sawyer, E. L., Boston.
Scofield, W. W., Dalton.
Sears, J. S., Boston.
Shores, H. T., Northampton.
Smyth, R. S., Boston.
Stacey, C. L., Boston.
Starbird, E. P., Boston.
Stetson, F. E., New Bedford.
Stevens, Sara E., West Roxbury.
Swan, R. W., Worcester.
Sweetsir, C. S., Lowell.
Sylvester, A. W., Pittsfield.
Taft, A. A., Boston.
Tenney, E. S., Boston.
Thompson, R. H., Malden.

Topaz, Anna, Boston.
Torrey, S. W., Beverly.
Tower, F. R., Boston.
Trayes, W. H., Boston.
Tucker, W. E., Ipswich.
Twitchell, E. T., Dorchester.
Vickery, L. F., Jamaica Plains.
Viles, C. A., Lowell.
Vose, R. H., Boston.
Walcott, H. J., Jr., Springfield.
Walker, A. C., Greenfield.
Walker, David Harold, Brookline.
Webber, H. G., Wilbraham.
Wormelle, C. B., Boston.

MICHIGAN.

Herrington, W. J., Bad Axe.
Inch, G. F., Kalamazoo.
Palmerlee, G. H., Detroit.
Stuck, C. M., Plainwell.
Vercellini, Giuseppe, Calumet.

MINNESOTA.

Aldrich, F. H., Belview.
Belt, W. E., Dodge Center.
Braasch, Wm. F., Minneapolis.
Cheney, E. L., Duluth.
Dulude, Stephen, Winsted.
Gray, T. D., Vesta.
Lima, L., Montevideo.
McComb, C. F., Duluth.
McEachern, W. A., Sandstone.
Ray, C. W., Mount Lake.
Rohlfshek, E. C., Minneapolis.
Webster, I. D., Mankato.
Wright, C. D. A., Minneapolis.

MISSISSIPPI.

Acker, G. W., Pt. Gibson.
Anderson, L., Jackson.
Brewer, W. C., Columbus.
Clarke, L. M., Pelahatchie.
Cox, S. L., Water Valley.
Flowers, Henry, Brookhaven.
Jones, M. F., Columbus.
Magruder, L. W., Woodville.
Ramsay, H. H., Darbun.

MISSOURI.

Alexander, W. J., Marthasville.
Anderson, Finis L., Joplin.
Bachelder, F. S., Asbury.
Crowson, Egbert, Gaynor.
Goodson, H. C., St. Louis.
McAlester, A. W., Jefferson.
Nichols, F. J., Ham's Prairie.
Parrish, E. E., Memphis.
Scharff, E. A., St. Louis.
Scherck, H. J., St. Louis.
Stewart, Jas., Holstein.
Taake, E. F., St. Louis.

MONTANA.

Randall, J. G., Missoula.
Schulin, Carl, Billings.

NEBRASKA.

Bening, H., Sutton.
De Lanney, E. L., So. Omaha.
Gandy, G. G., Humboldt.
Gerish, A. E., So. Auburn.
Hollibaw, Thos. C., Stelnauer.
Redfield, W. J., Wood River.
Schleler, F. J., Omaha.
Wilson, M. L., Humboldt.
Wittwer, E. C., Humboldt.

NEVADA.

Crockett, C. A., Reno.
Francis, C. H., Reno.

NEW HAMPSHIRE.

Boutwell, H. T., Manchester.
Cotton, C. B., Wolfboro.
Drake, E. T., Franklin.
Fernald, A. M., Sutton.
Hawley, G. H., Center Barnstead.
Hanaford, H. A., Newport.
Hill, F. E., Suncook.
Jones, S. W., Franklin.
Leith, W. H., Lancaster.
Morrill, A. B., Center Harbor.
Morse, C. A., Newmarket.
Nason, I. F., Dover.
Newell, H. W., West Derry.
Palmer, Haven, Plymouth.
Partee, W. H., Manchester.
Scott, N. H., Wolfboro.
Smith, F. A., Lebanon.
True, W. H., Laconia.
Weaver, C. A., New Boston.
Wilkins, G. C., Manchester.
Webber, N. B., Manchester.
Young, O. C., Charlestown.

NEW JERSEY.

McGill, Peter, Lambertville.
Simmons, M. H., Orange.

NEW MEXICO.

Beeson, C. F., Roswell.
Kornitzer, Joseph, Socorro.
Moir, J. G., Demming.

NEW YORK.

Aikier, S. J., Brooklyn.
Allen, J. R., Olean.
Allen, A. H., Saranac Lake.
Anderson, A. L., Brooklyn.
Angell, E. D., Rochester.
Ayres, Winfield, New York.
Baker, Smith, Utica.
Ball, O. D., Albany.
Bailin, M. J., New York.
Bandler, S. W., New York.
Bannan, Theresa, Syracuse.
Barber, Vincent, Brooklyn.
Barker, H. L., Woodside.
Barney, H. A., Belmont.
Basch, S. S., Rhinebeck.
Baum, H. C., Syracuse.
Beahan, A. L., Canandaigua.
Belcher, W. N., Brooklyn.
Bell, Alfred, Brooklyn.
Benjamin, F. E., Shelter Island.
Bensel, W., New York.
Berlenbach, P. H., Brooklyn.
Black, J. F. J., White Plain.
Blackham, G. E., Dunkirk.
Booth, A. W., Elmira.
Booth, J. A., New York.
Bouton, O. Z., Fultonville.
Bovaird, David, New York.
Boyd, J. P., Albany.
Boyd, W. A., New York.
Boyden, F. E., Brooklyn.
Bradbury, G. A., Troy.
Brainard, L. L., Little Falls.
Brasted, C. M., Hornellsville.
Brinkmann, M. W., New York.
Brizanti, P., New York.
Broad, G. B., Syracuse.
Brooks, J. M., Jamestown.
Brooks, S. A., North Java.
Brown, W. S., New York.
Browning, William, Brooklyn.
Brundage, J. D., West Hampton Beach.
Brunner, C. W., Brooklyn.
Buck, K., Rochester.
Bull, Tillinghast, New York.
Burch, T. H., New York.
Bush, R. P., Horseheads.
Butler, J. N., New York.
Cadwell, C. T., Poughkeepsie.
Calms, D. W., New York.
Carney, T. J., New York.
Carpenter, E. J., Corning.
Carpenter, F. B., New York.
Carr, C. A., Corning.
Case, D. C., Slingerlands.
Cavanaugh, W. J., Poughkeepsie.
Clark, G. P., Syracuse.
Clark, W. M. B., New York.
Clark, Wallace, Utica.
Clayland, J. M., Brooklyn.
Cleaves, Margaret A., New York.
Cleveland, C., New York.
Conway, M. P., Auburn.
Corsiglia, Andrew, New York.
Coxe, M. S., Dunkirk.
Curtis, H. H., New York.
Creveling, Joseph P., Auburn.
Cranston, W. J., Waltan.
Coakley, C. G., New York.
Cocks, Gerhard D., New York.
Coffin, L. A., New York.
Cohn, Martin, New York.
Cohn, Salo, New York.
Comstock, I. M., New York Mills.
Conner, Earle, New York.
Connell, Karl, New York.
Cotter, J. H., Poughkeepsie.
Cragin, E. B., New York.
Craig, J. D., Albany.
Crane, C. G., Brooklyn.
Crockett, R. L., Onelda.
Dana, C. L., New York.
Danner, E. W., New York.
Davin, J. P., New York.
Davis, A. E., New York.
Davis, C. E., Albany.
Davis, J. E. L., New York.
Delatour, H. B., Brooklyn.
Dinkelspeil, Edgar, New York.
Dixon, G. S., New York.
Duane, Alexander, New York.
Dunning, Z. F., Philmont.
Eddy, H. M., Geneva.
Elfstrom, C. E., Brooklyn.
Elliot, Ellsworth, New York.
Elliot, G. T., New York.
Ennist, F. B., New York.
Enright, G. C., Yonkers.
Ewing, W. A., New York.
Finney, F. F., Burke.
Fischer, Hermann, New York.
Fish, H. M., New York.
Fiske, J. P., New York.
Flaherty, Frederick, Syracuse.
Fleming, W. S., Mt. Vernon.
Ford, H. H., Elmira.
Ford, N. B., Owasco.
Forsyth, C. B., Alexandria Bay.
Frost, E. L., Buffalo.
Fuchs, F. L., New York.
Gallagher, J. T., Brooklyn.
Germer, H. G., Canastota.
Gibney, Homer, New York.
Gibson, W. C., Utica.
Gibson, L. M., New York.
Goodell, J. F., Rhinebeck.
Goodman, A. L., New York.
Goodwin, T. F., Mt. Vernon.
Graner, Frank, New York.
Grandin, E. H., New York.
Grant, J. E., New York.
Greene, W. D., Buffalo.
Gushee, E. S., New York.
Gwyer, Frederick, New York.
Halsted, T. H., Syracuse.
Hardenbergh, D. B., Middletown.
Hartwell, J. H., New York.
Harwood, W. H., Chasm Falls.
Hayman, Abe, Brooklyn.
Hayt, E. A., Fishkill.
Heffron, J. L., Syracuse.
Helman, Henry, New York.
Henry, C. C., Brooklyn.
Herrick, Everett, New York.
Herzfeld, A., New York.
Hills, A. K., New York.
Hitzrot, J. M., New York.
Hoffmann, J. S., New York.
Holden, F. C., Brooklyn.
Holden, W. A., New York.
Holmes, C. H., New York.
Hotaling, A. S., Syracuse.
Hunt, J. R., New York.
Huntington, Geo., Hopewell Jct.
Hutchings, E. H., Ogdensburg.
Ingersoll, J. M. Rochester.
Ingram, M. de B., Brooklyn.
Jaches, L. W., New York.
Jacobson, A. C., Brooklyn.
Jacoby, J. R., New York.
Jansen, F. I., Fonda.
Jenks, F. P., Brooklyn.
Jolls, W. B., Orchard Park.
Jones, E. A., Jamestown.
Jones, H. G., Utica.
Jones, J. D., Utica.
Joy, L. F., Fulton.
Joslin, F. M., Voorheesville.
Kahn, Ulysses, New York.
Kapetzky, S. J., New York.
King, J. W., Stottville.
Knapp, J. R., New York.
Knight, C. H., New York.
Krug, Florian, New York.
Kunitzer, Robert, New York.
Laird, A. T., Albany.
Lake, A. D., Gowanda.
Lanahan, J. A., Albany.
Langstaff, L. G., Brooklyn.
Larkin, A. E., Syracuse.
La Seur, J. W., Batavia.
Lempe, G. G., Albany.
Lennon, John, New York.
Levis, H. J., New York.
Levy, I. Harris, Syracuse.
Lewinthal, D. C., New York.
Lewis, G. G., Syracuse.
Lewis, T. A., Edwardsville.
Lipes, H. J., Albany.
Loughlen, T. B., Olean.
Lumbard, J. E., New York.
Luther, F. M., New York.
Lytle, A. T., Buffalo.
MacDonald, J. B., New York.
MacEvelt, J. C., Brooklyn.
MacGuire, C. J., New York.
MacHarg, M., Albany.
Mackenzie, D. H., Millbrook.
Mackee, G. M., New York.
McCaba, C. P., Greenville.
McCaw, J. F., Watertown.
McClary, C. E., Syracuse.
McClelian, G. W., Canandaigua.
McClelland, L. A., Brooklyn.
McCourt, P. J., Syracuse.
McKee, T. H., Buffalo.
McLennan, R. C., Syracuse.
McNulty, J. J., New York.
Madill, G. C., Ogdensburg.
Malcolm, P. E. D., New York.
Manchester, D. B., Oneonta.
Manchester, H. B., Batavia.
Mangan, D. C., Brooklyn.
Mann, John, Old Westbury.
Meader, I. M., Watertown.
Merkley, E. A., Edwards.
Merriam, E. H., Coxsackie.
Merzbach, Joseph, Brooklyn.
Michaelis, Alfred, New York.
Michallorsky, Michael, New York.
Miller, A. B., Syracuse.
Miller, J. G., Lancaster.
Mills, H. M., Brooklyn.
Mitchell, R. E., Middletown.
Mitchell, J. D., Hornellsville.
Mittendorf, W. F., New York.
Moak, Harris, Brooklyn.
Mooney, E. L., Syracuse.
Moore, E. S., Bay Shore.
Moorhead, J. J., New York.
Morrow, P. A., New York.
Mortimer, W. G., New York.
Moseley, H. P., New York.
Mosher, C. B., Johnstown.
Moss, L. H., Richmond Hill.
Mostom, G. T., Albany.
Mulligan, E. W., Rochester.
Murphy, G. A., Troy.
Murray, D. H., Syracuse.
Murray, G. P., New York.
Murray, R. A., New York.
Newton, S. H., Rouses Point.
Nichols, C. E., Troy.
Nichols, H. W., Brooklyn.
Norrie, Van Horns, New York.
O'Connell, T. J., Rochester.
Oliver, Ellwood, Ancram.
Oppenheimer, B. S., New York.
Osborn, L. J., New York.
Ozmun, I. D., Rochester.
Palmer, E., Brooklyn.
Parker, F. J., New York.
Parry, Angenette, New York.
Payne, L. C., Liberty.
Pedersen, James, New York.
Peltier, G. U., Cohoes.
Peterson, E. W., Manhattan.
Peterson, J. S., New York.
Phelan, D. J., New York.
Pisek, G. R., New York.
Plimpton, W. O., New York.
Pomeroy, R. H., Brooklyn.
Pratt, J. H., Manchester.
Price, H. R., Brooklyn.
Putnam, F. D., Auburn.
Putnam, W. W., Buffalo.
Racette, J. W., Schenectady.
Rafel, Henry, New York.
Reid, C. C., Rome.
Reynolds, W. B., Olean.
Rice, G. E., Jeffersonville.
Robertson, W. D., Mt. Vernon.
Roe, J. O., Rochester.
Rogers, T. A., Plattsburgh.
Rose, L. W., Rochester.
Rowe, J. T. W., New York.
Russell, J. I., New York.
Russell, W. L., Poughkeepsie.
Rutland, A. S., Syracuse.
Salisbury, T. B., New York.
Sanson, J. W., Sparkill.
Sargent, G. W., Seneca Castle.
Schwab, A. H., Brooklyn.
Schlitz, F. A., Brooklyn.
Schoeney, L., New York.
Sefton, Frederick, Auburn.
Sheppard, J. E., Brooklyn.
Shufelt, W. O., New York.
Slingerland, I. M., Fayetteville.
Smeltzer, W. F., Bergen.
Smith, E. A., Buffalo.
Smith, F. B., Watertown.
Smith, G. E., Fredonia.
Sondern, F. E., New York.
Soules, T. E., Westfield.
Stark, H. S., New York.
Stephens, G. H., Syracuse.
Still, D. V., Johnstown.
Stimson, C. W., New York.
Stone, W. B., Schenectady.
Stowell, W. L., New York.
Sturges, L. F., New York.
Sweet, M. F., Syracuse.
Stevenson, G. E., Gorham.
Sullivan, J. H., Charlotte.
Sullivan, E. C., Brooklyn.
Spence, T. B., Brooklyn.
Sterling, J. H., Brooklyn.
Stillman, W. O., Albany.
Stuart, F. H., Brooklyn.
Schmitt, J. A., New York.
Sturgis, F. R., New York.
Spier, O. A., New York.
Shelby, E. P., New York.
Silver, C. D., Plattsburg.
Thomas, A. M., New York.
Timme, Walter, New York.
Tyrell, W. D., New York.
Tousey, Sinclair, New York.
Todd, W. H., Dobbs Ferry.
Taylor, R. W., New York.
Thomas G. E., Port Chester.
Traver, A. H., Albany.
Vanderbogert, P., Schnectady.
Vanderhoof, J. D., Phelps.
Vander Poel, W. B., New York.
Vander Veer, Albert, Albany.
Vander Veer, E. A., Albany.
Vander Veer, J. N., Albany.
Van Fleet, Frank, New York.
Van Slyke, A. W., Coxsackie.
Voorhees, Sheldon, Auburn.
Whipple, E. B., Buffalo.
Williams, U. G., Newport.
White, A. B., Norwich.
Welker, Franklin, New York.
Williamson, C. S., Brooklyn.
Wilson, N. W., Buffalo.
Wheelwright, J. S., New York.
Woolsey, Geo., New York.
Wansbury, M. F., Troy.
Wyncoop, F. J., Syracuse.
Waite, H. E., New York.
Williams, G. O., Greene.

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Wicker, F. A., Livonia.
Wood, C. F., West Winfield.
Whitman, Royal, New York.
Weber, Leonard, New York.
Wiener, Alfred, New York.
Warner, H. S., New York.
Worden, H. K., Westmoreland.
Wood, F. C., New York.
Yard, A. B., New York.

NORTH CAROLINA.

Cooper, G. M., Clinton.
Highsmith, Chas., Dunn.

OHIO.

Bletz, A. J., Ravenna.
Carleton, E. E., Columbus.
Carlisle, I. C., Cleveland.
Clark, W. R., E. Liverpool.
Fletcher, F., Columbus.
Hoover, C. S., Alliance.
Kahn, Louis, Columbus.
McCready, S. R., Leetonia.
McKee, F. H., Bainbridge.
Rike, Wm. H., Versailles.
Rogers, C. G., Dayton.
Rowland, A., Akron.
Shafer, E. E., Willow Wood
Shenck, A. L., Ashland.
Sherbondy, J. A., Youngstown.
Sherwood, I. W., Columbus.
Stephens, C. A., Helena.
Thesing, J. H., Cincinnati.
Wardlow, Y., Columbus.

OKLAHOMA.

Dinkler, F., Ft. Cobb.
Easter, E. D., Pond Creek.
Flesher, T. H., Edmond.
Keeler, F. L., Perry.
Lee, T. J., Rocky.
Mavity, A. R., Lawton.
Sanders, T. C., Shawnee.
West, A. K., Oklahoma City.
White, C. T., Ivanhoe.

OREGON.

Baar, G. G., Portland.

PENNSYLVANIA.

Allen, A. R., Philadelphia.
Brennan, J. J., Scranton.
Brown, F. W., Franklin.
Bryan, J. R., Philadelphia.
Cope, J. C., Pittsburg.
Crosbie, G. T., Fayette City.
Davis, F. T., Jr., Lansdowne.
Dougherty, S. W., Philadelphia.
Ellinger, T. J., West Philadelphia.
Engle, G. D., Wilkinsburg.
Evans, D. R., Pittsburg.
Farrell, J. A., West Chester.
Fetherolf, F. A., Allentown.
Fisher, W. E., Reading.
Harper, J. G., Carbondale.
Henry, W. P. S., Everett.
Hoover, H. D., Waynesboro.
Johnson, W. S., Philadelphia.
Lincoln, C. W., Wayne.
Linn, J. M., Swissvale.
McKelvey, J. P., Pittsburg.
McKenzie, R. T., Philadelphia.
Radcliff, McCluney, Philadelphia.
Patterson, E. J., Pittsburg.
Porteus, J. S., Taylor.
Ruff, W. F., Philadelphia.
Sankey, T. M., Wilkinsburg.
Stegner, Adam, Rendham.
Swaving, J. H., Pottsville.
Thomas, G. P., Philadelphia.
Thomas, Y. D., Pittsburg.
Ziegler, C. E., Pittsburg.

RHODE ISLAND.

Brown, J. E., Providence.
Chase, J. A., Pawtucket.
Edwards, F., Providence.
Fulton, F. T., Providence.
Hindle, Wm., Providence.
Hollingworth, Arthur, Providence.
Leech, J. W., Providence.
McDermott, B. F., Providence.
Partridge, H. G., Providence.
Russell, W. A., Providence.
Shattuck, G. L., Providence.
Spicer, G. T., Providence.
Sylvia, C. A., Providence.
Tanguay, J. E., Woonsocket.

SOUTH CAROLINA.

Smith, L. J., Ridge Springs.
Wilbur, J. Q., Waterloo.
Wilson, J. D., Lowndesville.

SOUTH DAKOTA.

Ainsworth, O. N., Spearfish.
Anderson, E. T., Platte.
Bates, J. S., Erwin.
Culver, C. F., Sioux Falls.
Dyar, B. A., De Smet.
Gauger, E. C., Chamberlain.
Wallis, S. R., Miller.

TENNESSEE.

Brown, T., Nashville.
Cowan, C. M., Bristol.
Ferguson, G. D., Thomaston.
French, N. L., Wartburg.
Hackworth, C. L., So. Pittsburg.
Morton, J. L., Fall Creek.
Nickol, A. G., Nashville.
Perry, R. J., Springville.
Scott, L. M., Jellico.

TEXAS.

Arnold, W. T., Brookeland.
Armstrong, F. G., Della.
Bruhl, C. E., Houston.
Bialock, W. R., Dallas.
Caffrey, Russell, San Antonio.
Carpenter, E. R., El Paso.
Carter, J. C., Denison.
Caton, J. H., Breckenridge.
Ceagwall, A. O., Stephenville.
Danforth, C. G., Valentine.
Daniels, J. G., Jr., Gilmer.
Dixon, C. D., San Antonio.
Dunlap, E., Dallas.
Ehlert, J. M., Kingsbury.
Fields, W. M., Midlothian.
Floeckinger, F., Taylor.
Fowler, W. W., Ballinger.
Freedman, S. M., Dallas.
Grace, M. B., Seguin.
Greenwood, J. W., Memphis.
Hale, J. W., Waco.
Harper, W. A., Austin.
Herrington, J. L., Mullin.
Horn, J. B., China Springs.
Howell, E. P., Houston.
Jenkins, H. L. D., Hughes Springs.
Johnson, O. H., San Angelo.
Lake, I. W., Smithland.
Largent, J. W., McKinney.
Martin, W. H., Houston.
Peyton, F. P., Mexia.
Pullen, W. G., Corrigan.
Reagan, J. H., Nacogdoches.
Sellers, R. B., Comache.
Smith, W. I. M., Nacogdoches.
Suggs, L. A., Ft. Worth.
Terry, W. G., Denison.
Trigg, H. B., Ft. Worth.

UTAH.

Beatty, T. B. B., Salt Lake City.

VERMONT.

Brown, D. R., Danville.
Gillette, L. H., Springfield.
Gray, F. S., Troy.
Hanrahan, J. D., Rutland.
Howard, C. W., Shoreham.
Johnson, C. H., Berkshire.
Marshall, A. T., Chelsea.
Tindall, W. J., Williamstown.
Sargent, H. E., Island Pond.
Waller, C. C., No. Troy.
Watson, F. E., Williamstown.
Watson, J. W., West Hartford.

VIRGINIA.

Darden, J. C., Sweet Chalybeate.
Hope, J. W., Hampton.
Kight, R. S., Norfolk.
Lane, W. P., Waleyville.
Mallory, H. C., Greenbackville.
Newton, McGuire, Richmond.

WASHINGTON.

Brister, J. M., Puget Sound.
Crookall, A. E., Seattle.
Helton, A. J., No. Yakima.
Shannon, James, Seattle.

WEST VIRGINIA.

Arnett, C. T., Clarksburg.
Bragonier, R. K., Keystone.
Chalfant, E. M., Morgantown.
Sinsel, C. A., Grafton.
Warder, A. S., Jr., Grafton.

WISCONSIN.

Combs, C. J., Oshkosh.
Evans, Owen, Bangor.
Epley, O. H., Baldwin.
Fish, F. S., Lime Ridge.
Frank, L. F., Milwaukee.
Hover, G. C., Milwaukee.
Lademann, O. E., Milwaukee.
Lauder, C. E., Viroqua.
Ogden, H., Ft. Atkinson.
Purcell, H. E., Madison.
Wall, C. H., Mellen.
Wehle, W. J., West Mend.

HONOLULU.

Burnham, Minnette, Honolulu.

## Marriages

EJNAR HANSON, M.D., to Miss Sara Francis Jenner, at New York City, May 23.

W. J. BINGHAM, M.D., Toronto, Ont., to Miss Fanny K. Rice of Clinton, Mo., May 17.

GEORGE F. BLOUGH, M.D., to Miss Anna M. King, both of Camp Grove, Ill., May 16.

VERNON ROBINS, M.D., to Miss Mary Elizabeth Buck, both of Louisville, Ky., May 24.

ARTHUR H. HARMS, M.D., Sterling, Ill., to Miss Alice Ward of Rock Falls, Ill., May 29.

HAROLD G. GOLDBERG, M.D., Philadelphia, to Miss Florence Good of Bala, Pa., June 2.

WILLIAM T. MURPHY, M.D., Waukesha, Wis., to Miss Kitty Murphy of Chicago, May 29.

JOHN B. KOUWENHOVEN, M.D., Yonkers, N. Y., to Miss Grace Atlee of Philadelphia, May 24.

LEWIS M. CAREY, M.D., Novesta, Mich., to Miss Lulu M. Hall of Bad Axe, Mich., May 12.

JESSE CLIFFORD MOORE, M.D., Clio, Iowa, to Miss Edna May Gardner of Eddyville, Iowa, May 17.

GEORGE K. MCDOWELL, M.D., Spokane, Wash., to Miss Jean Dunlop of Parry Sound, Ont., May 30.

FREDERICK GOCHNAUR, M.D., Upperville, Va., to Miss Pearls Fitzhugh Peak of Norfolk, Va., May 23.

CHARLES DUANE COBB, M.D., Boston, Mass., to Miss Ella Elizabeth Rogerson of Bradford, Pa., May 19.

## Deaths

**Boerne Bettman, M.D.** Medical College of Ohio, Cincinnati, 1878; a member of the American Medical Association; a prominent specialist in diseases of the eye, ear, nose and throat; a resident of Chicago since 1883; president of the Illinois State Board of Charities under Governor Altgeld; for many years chief surgeon of the Illinois Charitable Eye and Ear Infirmary; professor of ophthalmology in the College of Physicians and Surgeons, and professor of ophthalmology and treasurer of the Post Graduate Medical School of Chicago, who had been ill for 12 years with insular multiple sclerosis, died from intercurrent pneumonia, at his home in Chicago, after an illness of five days, May 25, aged 49.

**Jacob Lafayette Williams, M.D.** Harvard University Medical School, 1848; a member of the American Medical Association, Massachusetts Medical Society, American Academy of Dental Sciences, New York Odontological Society, Society for the Advancement of Oral Sciences, etc.; one of the oldest and best known practitioners of Boston; for many years a specialist in oral surgery, died at his home in Boston, May 15, aged 82.

**John Elba Owen, M.D.** Evansville (Ind.) Medical College, 1879; a member of the Vanderburg County Medical Society and the Indiana State Medical Society; professor of anatomy in the Evansville Medical College and especially skilled as an anesthetist, died at his home in Evansville, May 20, from cirrhosis of the liver, after an illness of three months, aged 51.

**Henry Clay Barton, M.D.** Jefferson Medical College, Philadelphia, 1896; formerly of Wilkesbarre, Pa.; a member of the Hare Medical Society and the Medical Society of Wilkesbarre; for the last few months a resident of Philadelphia, died in Jefferson Hospital, March 12, from typhoid fever, after an illness of four weeks, aged 32.

**Horace M. Shallenberger, M.D.** Jefferson Medical College, Philadelphia, 1876, a member of the American Medical Association and a prominent physician of the Beaver valley, Pa., died at his home in Rochester, Pa., May 5, from typhoid fever, after an illness of one month, aged 52.

**Adrian D. Williams, M.D.** College of Physicians and Surgeons in the City of New York, 1896, formerly a contract surgeon in the United States Army and on duty in the Philippines, died recently and was buried from his late residence in Greenpoint, Brooklyn, May 6.

**Henry Lee Cabell, M.D.** Medical Department of the University of Pennsylvania, Philadelphia, 1861, of Cedarville, W. Va., a veteran of the Mexican War and Civil War, died at Winchester (Va.) Memorial Hospital, May 16, from brain disease, after a prolonged illness, aged 78.

**Robert P. Davis, M.D.** Northwestern Medical College, St. Joseph, Mo., 1888, of Woodruff, Mo., a member of the State Medical Association of Missouri and a delegate to that association, died suddenly in his apartment in Jefferson City, May 16, from heart disease.

**William J. Gilfillan, M.D.** College of Physicians and Surgeons in the City of New York, 1862, a surgeon in the Navy during the Civil War, and an officer of the health department of Brooklyn, died at the home of his nephew in that city, May 23, aged 66.

**Harvey Shannon, M.D.** New Orleans (La.) School of Medicine, 1868; a Confederate veteran and later a member of the Mississippi legislature; a practitioner of Ocean Springs, Miss., died at the home of his daughter in Nashville, Tenn., May 14, aged 75.

**Charles Carroll Bombaugh, M.D.** Jefferson Medical College, Philadelphia, 1853, a surgeon in the United States Army during the Civil War, thereafter devoted to literary pursuits, died at his home in Baltimore from gastritis, May 24, aged 78.

**Harry A. Brouse, M.D.** Jefferson Medical College, Philadelphia, 1878, a member of the Philadelphia County Medical Society, died at his home in Manhattan, Kan., May 10, from locomotor ataxia, after an illness of six years, aged 55.

**John R. Davis, M.D.** (Examination, W. Va.), a member of the American Medical Association, and one of the oldest practitioners of Moundsville, W. Va., died at his home in that city, May 15, after an illness of several weeks, aged 62.

**Thaddeus C. Montague, M.D.** Medical College of Virginia, Richmond, 1860, a Confederate veteran and member of the legislature of Virginia, died at his home in Fredericksburg, Va., May 16, after a lingering illness, aged 69.

**William Mead Page, M.D.** University of Virginia, Medical Department, Charlottesville, 1853, a surgeon in the United States Navy and in the Confederate army, died at his home in Fauquier County, Va., May 9, aged 74.

**William Hackett, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1860, of Highbridge, N. J., died in the Philadelphia Hospital, May 19, from the effects of an overdose of morphin, aged 68.

**Albert Hull Seeley, M.D.** University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1853, died at his home in Woodhull, N. Y., probably from aortic aneurism, after an illness of five hours, May 4, aged 78.

**Eli Allison, M.D.** Geneva (N. Y.) Medical College, 1861, a member of the Steuben County Medical Society and several times an officer thereof, died at his home in Wayne, N. Y., May 17, after a long illness, aged 70.

**Sardis L. Crissey, M.D.** Medical Department of Columbian College, Washington, D. C., 1871, a veteran of the Civil War, died at his home in Washington, April 28, from heart disease, after a long illness, aged 66.

**Joseph S. Crane, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1844, of New York City, died at the home of his son in New York, from heart disease, May 20, aged 85.

**Edgar Arthur Day, M.D.** Long Island College Hospital, Brooklyn, N. Y., 1887, organizer of the Newfoundland (N. J.) Health Association, died at his home in Newfoundland, May 15, after a long illness.

**Jacob L. Shriver, M.D.**, a practitioner of Jolleytown, Pa., for 55 years, died at his home in that place, May 5, from cerebral hemorrhage, after an illness of two weeks, aged 78.

**Benjamin F. Pitman, M.D.** Cleveland (Ohio) Medical College, 1861, surgeon during the Civil War in an Ohio battery, died at his home in Nantucket, Mass., May 17, aged 78.

**Henry H. Chase, M.D.** Chicago Homeopathic Medical College, 1881, died at his home in Rock Island, Ill., May 23, from septicemia due to an operation wound, aged 46.

**A. Churchill, M.D.** Physio-Medical College of Indiana, Indianapolis, 1874, for 50 years a practitioner of Nevada, Mo., died at his home in that city, May 22, aged 70.

**M. R. George, M.D.** Jefferson Medical College, Philadelphia, 1875, died at his home in College Springs, Iowa, May 10, from consumption, after a protracted illness.

**Charles Clipenger Davis, M.D.** Medical College of Ohio, Cincinnati, 1854, died suddenly at his home in Robinson, Ill., May 11, from heart disease, aged 76.

**John H. Amrock, M.D.** New York University, New York City, 1901, died at his home in New Bedford, Mass., May 20, after a long illness.

**L. F. Nelson, M.D.** University of Maryland School of Medicine, Baltimore, 1849, formerly of Edina, Mo., died in Moberly, Mo., May 17.

**Adam E. Ford, M.D.** Toronto School of Medicine, 1855, died at his home in Denver, May 17, aged more than 80.

## Book Notice

ESSENTIALS OF GENITO-URINARY AND VENEREAL DISEASES Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By S. S. Wilcox, M.D., Professor of Genito-Urinary Diseases and Syphilology, Starling Medical College, Columbus, etc. Illustrated. Cloth. Pp. 313. Price, $1.00 net. Philadelphia: W. B. Saunders Co., 1906.

This work is a worthy addition to the Saunders Question-Compend Series. We find a few subjects on which we do not agree, namely, that urinary fever is an acute or chronic condition caused by trauma to some part of the urinary tract. It should be regarded as an infection. The treatment advised for acute gonorrheal urethritis can hardly be accepted as the most approved and modern. The work, considered as a whole, is good, and the student and practitioner will find it of much value.

## Miscellany

**Effectual Vaccination of Mice Against Cancer.**—Ehrlich of Frankfurt has had extensive experience in this line. According to his statements published in the *Zeitft. f. aerztliche Fortbildung* for April 1, he has found 230 mice with tumors. All the "tumor mice" were females; most of them had been used for breeding purposes, and the tumors were exclusively on the mammæ. The microscope showed several types of structure in these spontaneous tumors, but all were of epithelial origin. He lays great stress on his success in inoculating successive generations with these tumors, selecting constantly the most virulent strains. By this means he has obtained a strain with a virulence beyond anything ever realized in this line. The Paris strain kills only 10 per cent., and the Jensen strain only 30 or at the most 40 per cent., while his strain is deadly for nearly every mouse inoculated. Among other features of his experimental research is his discovery that the spontaneous carcinoma of one mouse is harmless for all other mice, that is, there is less than one chance in a hundred that inoculation of another animal will give positive results. He found, however, that this inoculation acts like a vaccination, and the inoculated animal is protected thereafter against inoculation with the most virulent specific cancer material. This kind of vaccination proved successful in from 66 to 94 per cent. of the various series of tests, the fluctuations due to the tentative quantities used for the inoculations. A decided immunizing effect was unmistakably apparent in every instance. This immunity develops in the course of a week or so, and lasts for weeks and months. His numerous and repeated tests during more than twelve months always produced the same impression of successful immunization. The results were even better when mice which had given negative results to the primary inoculation of the virulent material were then inoculated a second time with the same material. The first inoculation invariably conferred complete immunity to further inoculations. The immunity conferred is a pan-immunity, protecting against all the types of malignant disease encountered in the experiments, sarcoma and chondroma as well as carcinoma and adenoma. He theorizes in regard to the rôle of the receptors in cancer formation, suggesting that possibly the tumor receptors are those that take up the "growth material." This view is sustained by Starling's experiences in which the rudimentary mammæ of female rabbits increased in size and assumed the aspect of the mammæ in pregnancy when an extract of rabbit embryos was injected subcutaneously. Under the influence of the anchoring of this "growth material" (Wuchsstoff) by the special receptors, the nourishment of the cells became much more abundant, possibly with the formation of more numerous and more rapacious "nourishment receptors." He is convinced that during the colossally complicated processes of fetal

and postnatal development germinal cells frequently become aberrant and misplaced. The protecting appliances of the organism, however, hold these aberrant germinal cells in abeyance and they remain entirely latent through life, thanks to the defensive arsenal of the organism. Otherwise cancer would be much more frequent than it is. He has never met with any evidence to prove a parasitic origin for cancer. For working purposes he accepts with Jensen the assumption that the cancer cell may be regarded and handled as, in itself, a colony-forming parasite.

## OSLER AT THE TOMB OF LOUIS.

A. C. KLEBS, M.D.
CHICAGO.

One day last October a small group of men was crowded in the narrow room of the doorkeeper's house of the Mont Parnasse Cemetery in Paris. Outside the autumnal rain was pouring down, not in the least disconcerting those within. A few soaked gendarmes peeped in through the window, no doubt wondering who were these foreign-looking men who spoke the English language and still could not be from across the channel, because of the absence of formality and stiffness evident in their conversation. They seemed like a little band of intimate friends bound together by a great common interest and full of enthusiasm for it. No outsider could have told that they were men working and striving toward the same goal, although separated by wide stretches of that fertile land across the Atlantic. As they chatted on, no difference of age among them was apparent: they all seemed to be in that blessed middle age, with its enthusiasm, hope and eagerness to learn. But there was one who instantly was recognized as their leader, not because of his greater stature, but for his dark eyes, his high forehead and especially for his dignified though jovial and friendly demeanor—Professor Osler, Dr. Osler or plain Osler they called him. And he seemed a young man among young men and happy to be with his "boys." He was the man we had followed through the wards of Johns Hopkins in some early morning hour, had admired his wonderful gift of perception, his penetrating, thorough scrutiny of all the intricate details of morbid manifestations, his never-failing kindness and attention to the individuality of a patient, and before everything his lucid rendering in simple language of the facts before him for the benefit of his hearers. Never can one forget the scenes in the out-patient department, where he stood surrounded by his boys, helping them as a friend in their struggles with some difficult case. He would go to one, put his arm around his shoulder and then begin a friendly inquiry, interspersed with humorous remarks and allusions to the work done by special students on a given subject. Urging, encouraging, inspiring, so we saw him, exact always, dogmatic never, and when the humorous and friendly fire kindled in his eyes we could not help but love him and with him the task we had chosen as our lifework. Thus we imagine those *maitres* of the old French school, a school no longer limited by national boundaries, one of those men who have trodden the paths through the wards of the Salpetrière, the Charité and Lariboisière, the Necker, the Hotel Dieu, making apostles and missionaries in the great cause of scientific medicine.

The photograph shows from left to right the following: Klebs, Chicago; Kayserling, Berlin; Beyer, U. S. N.; Whitman, Paris; McCarthy, Philadelphia; Norton, Paris; Osler, Oxford; Pearson, Philadelphia; Magnin, Paris; Jacobs, Baltimore; Knopf, New York; Evans, San Francisco; Lowman, Cleveland; Brennan, New York; Pottenger, Los Angeles.

The shower had stopped and the sun shone through the clouds and out went the little band. They stopped at the door of a mausoleum which bore the inscription, "Famille Louis," and which held the remains of that great French master of medicine, Pierre Charles Alexandre Louis. And their leader and master who had brought them hither placed a wreath of autumnal leaves on the steps of the mausoleum and told this simple story of Louis:

"While not sitting with Bichat and Laennec on the very highest seats of our professional valhalla, Louis occupies a seat of honor and distinction with his friends, Andral and Chomel, and with Bretonneau and Corvisart, with Bright, Addison and Hodgkin, with Skoda and Schonlein—among the men who gave to the clinical medicine of the nineteenth century the proper methods of work. Louis has special claims to remembrance as the introducer of the numerical method, by which he made his works on typhoid fever and on phthisis storehouses of facts which are consulted to-day by students of these diseases.

"Returning from a prolonged residence in Russia, he took up work at the Charité as a voluntary assistant to Chomel, and for years he noted with the greatest accuracy and detail the chief symptoms in certain diseases and then correlated these with the postmortem appearances. It was an original attempt to introduce mathematical accuracy into the study of disease. The story of his work has no parallel, so far as I know, in our profession. On his return to Paris he was 33 years of age. He entered the hospital as a clinical clerk with his friend Chomel, and for nearly seven years he devoted his entire energies to the rigorous and impartial observation of disease. He took no private practice and allowed nothing to interfere with his daily routine. A number of important researches appeared as a result of these studies. But the two diseases to which he devoted the greater part of his energies were phthisis and typhoid fever, the works on which appeared in 1825 and 1829. Both of these are worth studying to-day as illustrating methods of accurate clinical analysis and pathologic observation.

"But it is not on account of these works or for his subsequent important studies that we meet to-day to do him honor. He has a far higher claim on our affection and gratitude, as through his students he may be said to have created the American school of clinical medicine. Between 1830 and 1850 a group of young men from America studied here and came under his influence in a very special manner. Earliest to arrive, and chief among them in his affection, was James Jackson, Jr., son of Prof. James Jackson of Harvard, and him Louis loved as a son and mourned his untimely death, as we learn from the touching letters to his father. To give the names of Louis' American students is to mention the men who, in the third quarter of the nineteenth century, occupied the most prominent position in our ranks: from Boston, Oliver Wendell Holmes, Henry I. Bowditch, George C. Shattuck; Metcalf, Alonzo Clark, John A. Swett of New York; W. W. Gerhard, Alfred Stille, Pepper, Sr., and Meredith Clymer, of Philadelphia; from the southern states, Power of Baltimore and Cagell, of Virginia. Not only were these men inspired with enthusiasm for medicine and with high ideals in their calling, but there was a personal devotion to their master of a most intimate and delightful character.

"It was my privilege on several occasions to hear Henry I. Bowditch speak of Louis and of his extraordinary kindness to

the young men from America who frequented his clinic, and Dr. Alfred Stille, whose death a few years ago removed the last of this notable band, has often told me of the lifelong affection which he and all of the American pupils had for their great French master.

"It is not too much to say that it was the direct inspiration derived from him that laid the foundation of accurate clinical methods in the United States.

"At the congress concerned directly with a disease so accurately studied by Louis it seems appropriate that we should gratefully acknowledge, on behalf of our brethren in the United States, the deep debt which we owe to this great Frenchman, and in loving memory lay a wreath on his tomb."

And back these men went to their work at the Tuberculosis Congress, inspired by the memories of the great Frenchman's work and that glorious period of 1815 to 1840 of French medicine, the result of the inspiration of the two master minds, Bichat and Laennec. Deeply impressed they were by the solemnity and meaning of this tribute by their American master, their Osler, to one who has passed away, leaving behind him the fruits of his works to the whole world and their country so particularly. And as they went out with Osler's words still in their ears the sense of Ovid's lines came to their minds:

> Morte caret animæ, semperque priore relicta
> Sede, novis domibus habitant, vivuntque receptæ.

**The Relations of the Medical Profession to the Public.**—The following editorial appeared in the *Stanford Interior Journal:*

According to program, Dr. McCormack, the representative of the American Medical Association, came on Wednesday and delivered his lecture on "The Relations of the Medical Profession to the Public," at the court house, to a large and appreciative audience. Judge R. C. Warren gracefully introduced the speaker. Dr. McCormack, who is no novice, having spoken on this and kindred subjects all over the United States, immediately began his text. His commanding and graceful presence, his mastery of the English language, his distinct and elegant enunciation, the knowledge of his subject, apparently inexhaustible, and his scholarly methods, commanded instant and persistent attention. He saw that he "had the day" and he used it wisely, simply, brilliantly. There are men made into doctors and there are doctors who were made doctors as soon as they became men. "Yea, from their birth up they were called to treat the sick." Dr. McCormack belongs to this class, and he might have been born talking, too, so far as we know. He has a fluency which is rare, an Irish wit that is exhilarating, and in the presentation of facts and principles all is done with science and skill. Technicalities were so far eliminated that every one, the school children as well as the older ones, readily followed the speaker from start to finish. The large crowd, composed of our best citizens, we are sure will never regret having heard him. They carried home with them impulses more generous to the medical profession; impressions pleasing to remember and suggestions beneficial to their health and happiness. Doctors themselves, and a goodly number was present from Lincoln and Casey—were uplifted by the unswerving firmness with which he upheld the honor and dignity of the medical procession. They had placed before their minds many striking facts which they all should and doubtless will remember. Dr. McCormack, as the poet puts it, is just a very few years past the "Quiet half-way hostelrie on life's long road." His mission is to do good; is not grandiloquent, not exalting his function, not anxious for cheap effects, not making broad the phylacteries, but is loyal to truth, striving after far-reaching results and is most careful not to mislead. In very truth an Apostle of Medicine. May he live long and prosper in the noble work.

**Gallstone Colic Without Icterus.**—A handsomely illustrated article on this subject by Riedel is published in the *Zeitft. f. aerztliche Fortbildung* for April 1. He remarks that a few years ago he wrote to the presidents of a number of medical societies asking them to have the members as they entered the next meeting requested to state what does the gall bladder contain at the first attack of colic, aside from gallstones? Nearly everyone wrote "bile"; only a few "mucus" or "pus." Riedel found in 100 patients operated on during or soon after the first attack that the bile was normal in none; it was thick and black in 10, and in the other 90 the gall bladder was more or less filled with serum, mucus or pus. The first attack is nearly always due to acute dropsy of the acutely inflamed gall bladder. The stone obstructs the outlet, the bile accumulates and in time its pigments are reabsorbed, leaving the serum. Then comes the acute explosion of the inflammation in a chronically affected organ. He reviews the whole field of differential diagnosis of gallstone affections without icterus, and remarks in regard to treatment that it is not so advanced as that of appendicitis. Physicians strive to make the gallstone "quiet," but, alas, he adds, there is nothing that will make the gallstone stay quiet and at the same time protect against the development of cancer at the spot. He regards every "unsuccessful" attack of gallstone colic as an indication for extirpation of the gall bladder, on the same principles as appendicectomy. This is the only means to guarantee against the passage of the stone into the common bile duct at the next attack, or that smaller stones may not form and cause intoxication if lodged at the papilla, and also to protect against cancer of the gall bladder. Unforunately, it seems to be true that cancer generally develops in persons whose attention has never been called to their gallstone affection. Careful examination may reveal, however, a history of occasional mild attacks of inflammation of the gall bladder, in the form of stomach cramps. If there is a family record of gallstones, the physician must be on the lookout for such "stomach cramps," and examine the patient carefully during such an attack. If the region of the gall bladder is painful on pressure, some gallstone affection probably exists, and he should advise operation. It is extremely simple in such cases; there is no need even for tamponing, to which much of the after-effects of extirpation of the gall bladder are due. In his experience with about 1,100 gallstone operations, he found carcinoma in 82, ulcer of the stomach or duodenum in 60, and adhesions with floating kidney in 45.

**Alligator Oil.**—Few people know, says the *Oil, Paint and Drug Reporter,* that the alligator is not only valuable for its skin, but that its grease has a commercial value. It is used principally by manufacturers of chamois leather, probably in conjunction with fish oils, such as crude cod oil, the tanning action depending on the oxidizing of the oils during the fulling and air-drying processes. The preparation of this alligator fat is simple, the flesh of the animal being well sliced and boiled. It is said that the species of alligator indigenous to Madagascar furnishes more solid greases than any other variety of the cayman species, some going so far as to say more than can be obtained from any kind of fish oil. A peculiarity of alligator oil is that it solidifies at the point of congealing, most other marine or fish oils only thickening at the same temperature. After the oil is extracted the flesh is sundried and forms an excellent manure. Certain glands of the alligator, contain a substance having a similar odor to musk, which is used in the manufacture of perfumes.

**The Address of Dr. Shipp.**—An error in an exchange was copied in THE JOURNAL, April 28, page 1317, paragraph 20. Dr. F. N. Shipp is of Indianapolis instead of Columbus.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

### THE FIRST MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

MORGANTOWN, W. VA., May 22, 1906.

*To the Editor:*—Kindly inform me where and when the American Medical Association held its first meeting, what the attendance was and the number joining. S. S. W.

ANSWER.—The first meeting of the American Medical Association was the first preliminary convention held in New York on May 5-6, 1846. The attendance was 119. The second preliminary convention was held at Philadelphia May 5-7, 1847. The first annual meeting was held at Baltimore, Md., May 2-5, 1848, at which the attendance was 266. Election as a delegate was the only method of obtaining membership at that time.

### STATES RECIPROCATING WITH ARKANSAS.

FALCON, ARK., May 23, 1906.

*To the Editor:*—What states reciprocate with the state of Arkansas, based on an examination taken before the State Board of Medical Examiners of the State of Arkansas? J. H., D.

ANSWER.—Arkansas has made no provision for reciprocity. For further information we suggest that you write to Dr. J. P. Runyan, Little Rock, secretary of the Arkansas Board of Medical Examiners.

# The Public Service

## Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending May 26, 1906:

Robbins, Chandler P., asst.-surgeon, ordered to proceed from Fort Ethan Allen, Vt., to Madison Barracks, N. Y., for temporary duty.

Marrow, Charles E., asst.-surgeon, reported for temporary duty at Army General Hospital, Washington Barracks, D. C.; left Fort Monroe, Va., May 20, 1906.

Harvey, P. F., asst.-surgeon-general, relieved from station at Governor's Island, N. Y., and will take station in New York City, in connection with his duties as chief surgeon, Department of the East.

Hogan, David D., contract surgeon, granted an extension of one month to his leave of absence.

Springwater, Samuel A., contract surgeon, left San Francisco, Cal., on leave of absence for two months.

Wing, Franklin F., dental surgeon, left Fort Washakie, Wyo., and arrived at Fort Robinson, Neb., for duty.

Long, Charles J., dental surgeon, left Fort Missoula, Mont., and arrived at Fort Yellowstone, Wyo., for duty.

Carpenter, Alden, dental surgeon, left Vancouver Barracks, Wash., for a professional tour of the posts in Alaska.

Byars, Caspar R., contract surgeon, ordered from Jefferson Barracks, Mo., to duty at Arcadia Rifle Range, Mo., during the target practice season.

Macy, Fred S., contract surgeon, ordered from Fort Adams, R. I., to Fort Ethan Allen, Vt., for temporary duty.

## Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending May 26, 1906:

Wilson, H. D., surgeon, detached from the Naval Hospital, Portsmouth, N. H., and ordered to the *Dixie*.

Traynor, J. P., P. A. surgeon, ordered to the Naval Hospital, Portsmouth, N. H., for additional duty.

Allen, A. H., asst.-surgeon, ordered to the Naval Hospital, Naval Home, Philadelphia, Pa.

*Orders issued by Commander-in-Chief of Asiatic Station.*

Edgar, J. M., surgeon, detached from the *Monadnock* and ordered home.

Nash, F. S., surgeon, detached from the *Rainbow* and ordered to the *Monadnock*.

## Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending May 23, 1906:

Balthache, P. H., surgeon, granted leave of absence for one month, from June 9, 1906.

Stoner, G. W., granted leave of absence for three days, under Paragraph 189 of the Regulations.

Stoner, G. W., surgeon, directed to proceed to Liverpool, England, and other points in Continental Europe for special temporary duty, on completion of which to rejoin his station at Ellis Island, N. Y.

McIntosh, W. P., surgeon, granted leave of absence for ten days, from May 25, 1906.

Brown, D. W., P. A. surgeon, granted leave of absence for two months, from July 2, 1906.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for five days, from May 29, 1906.

Townsend, F., acting asst.-surgeon, granted leave of absence for five days, from May 22, 1906.

Weldon, W. A., acting asst.-surgeon, granted leave of absence for thirty days, from July 15, 1906.

BOARD CONVENED.

A board of medical officers was convened to meet at Baltimore, Md., on May 19, 1906, for the purpose of making a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon L. L. Williams, chairman; Asst.-Surgeon W. H. Frost, Recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 25, 1906:

SMALLPOX—UNITED STATES.

Arkansas: Fort Smith, April 28-May 12; 5 cases.
California: Los Angeles, April 28-May 12, 2 cases; Mill Valley, May 12, 1 case; Oakland, May 7, 3 cases, in camps; Petaluma, May 12, 1 case; Pleasanton, 1 case; Stockton, April 1-30, 1 case.
District of Columbia: Washington, May 5-19, 18 cases.
Florida: General, May 12-19, 14 cases; Jacksonville, May 5-19, 4 cases.
Georgia: Augusta, May 7-21, 4 cases.
Illinois: Chicago, May 12-19, 3 cases.
Kansas: Abilene, April 14, 12 cases; Topeka, May 5-12, 1 case.
Louisiana: New Orleans, May 5-19, 12 cases.
Maryland: Baltimore, May 12-19, 1 case.
Michigan: Detroit, May 12-19, 2 cases.
Missouri: St. Louis, May 5-19, 3 cases.
Montana: General, April 1-30, 3 cases.
Nebraska: Omaha, May 12-19, 1 case.
North Carolina: Greensboro, May 5-19, 2 cases.
Ohio: Cincinnati, May 4-18, 12 cases; Dayton, May 12-19, 2 cases
Pennsylvania: Lancaster, March 29-April 19, 2 cases; Philadelphia, March 31-April 7, 2 cases; April 14-21, 2 cases; April 28-May 12, 2 cases; Pittsburg, 4 cases, 1 death.
Tennessee: Memphis, April 28-May 19, 29 cases; Nashville, May 12-19, 3 cases.
Wisconsin: Appleton, May 5-19, 3 cases; La Crosse, May 5-12, 3 cases; Marinette, May 7-19, 5 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, April 7-14, 7 cases; Monrovia, March 1-30, 3 cases.
Argentina: Buenos Ayres, Feb. 1-28, 38 cases, 25 deaths.
Belgium: Antwerp, April 21-28, 4 cases, 1 death.
Brazil: Pernambuco, March 18-April 15, 25 deaths; Rio de Janeiro, April 15-22, 1 case.
Canada: Toronto, April 28-May 12, 4 cases.
China: Hongkong, March 31-April 7, 15 cases, 15 deaths.
France: Marseilles, April 1-30, 2 deaths.
Germany: Bremen, April 28-May 5, 1 case.
Great Britain: Bristol, April 28-May 5, 1 case; Cardiff, 2 cases; London, 3 cases; Newcastle-on-Tyne, 1 case.
Greece: Athens, April 21-May 6, 5 deaths; Patras, March 27-April 10, 2 cases, 2 deaths.
India: Bombay, April 17-24, 18 deaths; Calcutta, April 7-24, 206 deaths; Karachi, April 15-22, 20 cases, 13 deaths; Madras, April 14-20, 42 deaths; Rangoon, April 7-14, 51 deaths.
Italy: General, April 26-May 3, 35 cases.
Japan: Hironuma, April 21-28, 1 case.
Russia: Odessa, April 14-28, 30 cases, 6 deaths; St. Petersburg, March 31-April 21, 28 cases, 6 deaths.
Spain: Barcelona, April 20-30, 12 deaths.
Turkey: Constantinople, April 15-29, 2 deaths.

YELLOW FEVER—FOREIGN.

Cuba: Matanzas Province, May 18-23, 2 cases, 1 death.
Mexico: Merida, May 10-12, 3 cases, 2 deaths.
Panama: Colon, May 22, 1 death.

CHOLERA—FOREIGN.

India: Bombay, April 17-24, 40 deaths; Calcutta, April 7-14, 48 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 13-21, 2 cases, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, March 31-April 7, 24 cases, 2 deaths.
India: Bombay, April 17-24, 1,084 deaths; Calcutta, April 7-14, 260 deaths; Karachi, April 15-22, 253 cases, 198 deaths; Rangoon, April 7-14, 64 deaths.
Japan: Wakayama, April 21-28, 1 case.
Peru: Lima, April 1-9, 6 cases, 1 death; Mollendo, 1 case, 1 death; Pascamayo, 5 cases, 1 death; Reque, 1 case, 1 death; Trujillo, 4 cases, 3 deaths.

# Society Proceedings

## COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Boston, June 5-8.

American Academy of Medicine, Boston, June 2-4.
Amer. Assn. of Life Insurance Exam. Surgeon, Boston, June 4.
American Gastro-Enterological Assn., Boston, June 4.
American Urological Assn., Boston, June 4-5.
American Proctologic Society, Boston, June 5-6.
American Medico-Psychological Society, Boston, June 12-15.
Massachusetts Medical Society, Boston, June 12-13.
Maine Medical Association, Portland, June 13-15.
Minnesota State Medical Association, Minneapolis, June 20.
West Virginia State Medical Assn., Webster Springe, June 20-22.
Medical Society of New Jersey, Atlantic City, June 19-21.
State Medical Society of Wisconsin, Milwaukee, June 27-29.
American Ophthalmological Society, New York City, June 28-29.

## PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Regular Meeting, held March 28, 1906.*

The President, DR. CHARLES K. MILLS, in the Chair.

### Sanitary and Moral Prophylaxis.

DR. PRINCE A. MORROW, New York, president of the American Society of Sanitary and Moral Prophylaxis, said that the prophylaxis of venereal diseases has long been recognized as the most difficult and delicate of all problems of social hygiene, and that the satisfactory solution of this problem would represent the greatest possible benefit that preventive medicine could render humanity. Notification, the first and most essential condition of sanitary control, does not appear to him to be practicable; here the medical secret dominates the situation. It is evident that medical measures must be supplemented by influences and agencies which can more effectively intervene in the correction of the causes of these diseases and the conditions under which they are spread; especially must they be adapted to their peculiar nature and communicative mode. He declared it to be the duty of the medical profession to let men know to what they expose themselves, and especially to let them know that the introduction of these diseases into marriage has on their dependents and on future generations all the consequences of crime.

The peculiar difficulties in the way of this prophylactic education was referred to. Experience in dealing with other communicable diseases has shown that the most essential condition of success is the creation of public sentiment. It is especially needful that the light of publicity should be turned on a class of diseases which infect unseen the social body, which aptly typify "the pestilence that walketh in darkness" and whose ravages have been concealed. This, he believes, can be done most effectively by exposing the grave dangers to health from venereal infection, the economic and social interests involved and especially the dangers to the family. Dr. Morrow recounted the experimental work done by the American Society of Sanitary and Moral Prophylaxis organized in New York twelve months ago. It was found that the society must be composite in character, embracing in its membership medical men, representatives of the clergy, the law, public educators, sociologists and public-spirited citizens interested in the social welfare. For the first year it was decided that the meetings should be a sort of continued educational symposium, embracing the subjects of the education of the youth of the country in sexual physiology and hygiene, studying the nature and scope of this instruction, the age at which it should be given, whether it should be progressive according to the age of the individual, through what agencies it should be given, etc. There were further considered the subjects of the education of the young men and young women of the working classes, education of the men of the Army and Navy, and finally the great body of the general public. In the practical application of this educational scheme popular educators and practical pedagogists were invited to point out specific methods for carrying out the work. The question of the education of young women of the working classes was submitted to women physicians for discussion. In the matter of educating men of the Army and Navy the co-operation of the national government was solicited. It was shown that venereal diseases constituted the largest factor in impairment of the efficiency of the service of the Army. The enlightenment of the great body of the general public was regarded as, perhaps, the most important and yet the most difficult part of the society's program. The newspaper press is absolutely barred to the mention of venereal diseases, and yet, Dr. Morrow believes that certain types of newspapers are the most powerful of all agencies in the dissemination of venereal diseases by printing quack advertisements which hold out deceptive promises of cure of gonorrhea in from three to ten days, of syphilis in from 30 to 60 days, leaving their dupes to sow broadcast the seeds of disease which might have been sterilized by scientific treatment. Dr. Morrow states that whether or not this be false ethics, it must be accepted as newspaper ethics. He regards it a fortunate matter that the entering wedge which may serve to open up communication with the public has been found in the *Charities and the Commons*, whose editor has the courage and public spirit to disregard traditional prejudice and print the papers and discussions of the American Society of Sanitary and Moral Prophylaxis.

The educational feature does not represent the entire scope of the society's work. There are in addition committees on treatment, on "the social evil," and on legislation. Dr. Morrow was emphatic in his declaration of the duty of the medical profession to proclaim the doctrine that continence is not prejudicial to health. The almost universal infection of the minds of young men with the converse of this doctrine—the so-called "sexual necessity"—is, in his opinion, the most powerful determining cause of masculine immorality.

### Syphilis and Gonorrhea of the Innocent.

DR. EDWARD MARTIN spoke of the women and children as two classes who suffer from gonorrhea acquired innocently. A third class, he said, are the doctors who acquire syphilis in the practice of medicine or surgery. In so far as the children are concerned, he thought it fair to state that a large percentage of hydrocephalic and epileptic children and those exhibiting various dystrophies are due to hereditary syphilis. Possibly 10 per cent. of those blind from birth are so from gonorrhea innocently acquired; 5 to 10 per cent. of the deaf and dumb are so because of syphilis. Dr. Martin regarded as extraordinary the fact that the law compels report of a case of diphtheria, which is easily controlled, the transmission of which can be absolutely prevented by modern means, and that syphilis, which can be conveyed directly to the innocent and passed to the next generation, must not be reported. He would approve, through the public school system of Philadelphia, of all children being educated not only in the prophylaxis and the ultimate results of syphilis and gonorrhea, but of all contagious diseases. He sees no more reason why young women should be taught the functions of digestion than that they should be taught the functions of reproduction.

A second step in prophylaxis, he believes, is in holding to strict accountability those responsible for the conveyance of the disease. A third step is in clearing the streets of soliciting women. He agreed with Dr. Morrow in his estimation of the enormous power of the press in the education of the people.

### Influence of Municipal Authority in Suppressing Venereal Diseases.

DR. W. M. L. COPLIN, director of public health of Philadelphia, said that any great public movement to be efficient must be supported by a stronger influence than the written law, namely: the irresistible force of public opinion. He spoke of the concealment from the general public of the dangers surrounding venereal disease as a factor in weakening official efficacy and lessening the activity of departmental energy. He was emphatic in his denunciation of official supervision that gives to vice the suggestion of legal sanction. Although highly desirable, he is not certain that there is the legal machinery necessary for exerting a custodial care by immuring or quarantining individuals known to be actively infected and who continue a line of contact propagating venereal diseases. A form of official suppression partaking more of the nature of a police regulation than a sanitary measure, especially directed toward brothels, he believes of value. He noted that coincident with the recent activity of the police and private societies, the number of admissions to the venereal wards of the City Hospital had perceptibly diminished. He thought that all those who have studied the social evil are agreed that the most efficient influence that at present can be exerted must be educational rather than restrictive, and directed to the awakening of the public mind, morally and physically, to this form of immorality. He suggested the co-operation of health authorities with physicians in popularizing appropriate knowledge contained in pamphlets judiciously distributed. Physicians are undoubtedly negligent in not calling the attention of their patients to the danger of propagating venereal disease both to the innocent and to the official offender. As a part of the educational campaign, he suggests the possibility of the city authorities, through the board of health or the board of education, arranging definite lines of instruction, preferably by lectures, to the advanced classes and especially to youths at that age when the sexual functions first conspicuously become manifest. Dr. Coplin regards as within the realm of the practicable the suggestion that the man contemplating marriage should be certified to as free from venereal infection.

### Transmission of Venereal Diseases to the Wife.

DR. JOSEPH PRICE spoke of the great number of women on whom he has operated whose reproductive organs were destroyed as the result of venereal disease. He considers the disease equally destructive to the male reproductive organs. He believes that very few men and women are sterile who have lived a "Bible virtuous life."

### Influence of the Young Man in Control of Venereal Diseases.

DR. ROBERT N. WILLSON expressed his great pleasure in realizing in this meeting some results of an effort started six years ago in the university toward awakening the medical profession to the needs outlined by Dr. Morrow. He stated his belief that the matter lies in the hands of the young men and of the mothers of this country. Of the 14,000,000 young men under 30 years of age in America he said that probably 50 per cent. are infected with venereal disease before their thirtieth year. In speaking of the control of the evil, Dr. Willson said that the leading newspapers printed, in the last month, columns on the subject of venereal disease and in plain

terms. Pamphlets had been widely circulated and a million American mothers had had placed in their hands facts which should secure their aid in combating the evil. Literature on this subject had been especially distributed among students. He believes that the laymen can do more than the medical men if the facts were in their hands. The mother can add her influence by educating her boys and girls in the knowledge of simple and normal sexual life, and in telling them of the danger from abuse of these functions.

**Social Evil from the Publicist's Viewpoint.**

DR. W. B. HALE of the *Public Ledger* said that in his judgment the chief considerations in the combating of this evil are the reflections concerning the physical effect of transgression on one and on others closely related to him, and a remembrance of those higher obligations of which Dr. Tomkins would speak. The part of the newspaper, he said, is (1) positive—to give whatever publicity may seem wise to both these considerations; and, (2) negative—to decline to give publicity to matter calculated to inflame unlawful desires, and to refrain also from publishing items which will pander to the satisfaction of these desires. While in full sympathy with the movement, he felt that the work of the newspaper, in particular, must be chiefly on the negative side. He thinks much would be gained if the newspaper press were persuaded to refuse to publish inflaming news stories, or, at least, displaying them, as is now the case with a certain class of the newspaper press. He does not believe it wise in the accounts of disorderly houses raided to give the streets and numbers of these houses, and as to advertising places like this in due form of advertising, he declared that a community that would tolerate it is not a decent community. He thought the effort against the social evil can be directed to no better purpose than to discourage the circulation of papers advertising lewd houses, massage houses, rooms with privileges, and illegal practitioners. As to the positive influence for good which the newspaper might exert, he feared that in the present state of public sentiment it would not be possible to print the facts presented to the meeting. He is not convinced that it is the function of the newspaper to enter on a specific campaign against the social evil, but believes that it is one of the responsibilities of the press to fight the evil as it can and at least to do all possible to keep the general tone of the press sweet, sound and wholesome so that the particular work under discussion can be carried on effectually by those on whom it must chiefly rest, the fathers, the mothers, the medical profession and the pulpit.

**Social Evil from the Viewpoint of the Pulpit.**

The REV. DR. FLOYD W. TOMKINS said that the pulpit believes, first, that the ideal of social morality must be kept very high, and there must never be any question of lowering it; the licensing or segregation idea can not be considered; second, there must be equal justice in judgment so that the one who sins shall be judged as severely as the other; there must be the teaching in plain terms that there is no difference between the sin of the man and the sin of the woman, unless it make the sin of the man the greater. Much is heard of "fallen women," but nothing of "fallen men." The woman, sinning from love, is ostracized; the man, sinning from lust, is not only allowed to go scot free, but is welcomed in social circles and allowed to mingle with the wives and daughters who should be protected. In the third place, everything possible must be done to educate in the schools and colleges, as well as in the family. In the fourth place, there must be impressed on physicians as well as on ministers the necessity of firm personal appeal and earnest warning.

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## NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

*Second Annual Meeting, held at Washington, D. C., May 16-18, 1906.*

The work of the association began with a joint meeting held with the Association of American Physicians on Wednesday evening, President Billings of the latter society presiding.

**Immunity in Tuberculosis.**

DR. SIMON FLEXNER, New York, gave a general review of the work accomplished since the inception of this idea. The question of the difference between tubercle bacilli in different types of mammals is of great importance in the problem, the avian infection occurring rarely in man. Human tuberculosis is caused by either the human or the bovine bacillus. The attempts to limit the disease in man must depend largely on the methods of infection. The reduction of 35 per cent. in the mortality from the disease in New York since 1886 is a great encouragement. Immunity has been attempted by various products. Tuberculin will increase the resistance in some animals, but not in a marked manner, it being almost innocuous to the bacillus-free body. Dead bacilli produce a reaction, but the body is still susceptible to the living organism. The only immunity worthy of the name has been produced by the inoculation of living bacilli. Acquired immunity does not appear in man, yet there appears to be a refractory condition that is increased by infection, the human body possessing a strong inherent capacity to overcome the action of the tubercle bacillus. Dr. Flexner reviewed the efforts of various observers to induce immunity, stating that Behring deserves credit for demonstrating that in animals some degree of resistance can be produced. The question as to the duration of this resistance, which Behring thinks is during life, is still open. When immunity has been produced in cattle by the action of living human tubercle bacilli, are the cattle dangerous to the consumer? There are but few observations on this question, and no scientific deductions have been made. Finally, reference was made to the new use of tuberculin in treatment advocated by Wright, the cautious injection of this material tending to produce a rise of the opsonic index. This problem is one of great intricacy, but there appears the possibility of arousing the organism to put forth greater effort against the invading bacillus.

**Duties, Responsibilities and Opportunities of the Association.**

DR. LAWRENCE F. FLICK spoke of the good work accomplished by the association during the past year. Three things are prominent: the bringing to this country of the next meeting of the international congress, the establishment of exhibition meetings throughout the country and the creation of an advisory council. For the congress he urges the raising of a fund of $100,000 for expenses, and the early opening in Washington of an office for arranging the details of the meeting. The local exhibitions held in a number of the cities of this country during the past winter accomplished a great deal of good in educating the people. The program is to be extended to other cities and towns. The advisability of establishing permanent exhibitions in the large cities is to be considered.

Surprise has been expressed that physicians who are paid for curing disease should make such efforts to prevent it and thus take away their livelihood; the physician goes into such a crusade as a philanthropist, not as a physician. There is not enough knowledge regarding tuberculosis among others than physicians. More women should become members. Professors in colleges should enlist in this work, as no other class possesses such opportunities for enhancing the cause. The medical profession as a whole has hindered rather than helped the crusade against tuberculosis. Business men do not respond to the call as, for several reasons, they should do. The great work of the society is the creation of public sentiment in favor of its aims. A press bureau for furnishing reliable information concerning every aspect of the tuberculosis problem would be of inestimable value in this respect. The press is now ready to aid and the papers want correct statements about the disease. A lecture bureau to furnish men thoroughly competent to address the people would also help much in spreading knowledge regarding the prevention of tuberculosis.

**Report of the Secretary.**

MR. LIVINGSTON FARRAND, general secretary of the association, stated that the membership at the meeting last year was 406; now it is 1,012. There are now 10 state societies in correspondence with the association, 8 more are forming organizations, and 6 have started a movement against tuberculosis. The exhibition meetings in the various cities were a

success, the attendance being more than 160,000. The association is constantly forming affiliations with societies or organizations that will aid in the dissemination of knowledge. It now has the co-operation of the National Federation of Labor, and numerous magazines are interested in the promulgation of its ideas.

The association adopted the double red cross as the official insignia of the society. The scientific work was carried out under five sections, the sociologic, pathologic and bacteriologic, the clinical and climatologic, the surgical and that on tuberculosis in children.

## SOCIOLOGIC SECTION.

### Tuberculosis Nostrums.

MR. SAMUEL HOPKINS ADAMS, New York, said that from the perusal of advertisements he has arrived at the conclusion that any one except the regular practicing physician can cure tuberculosis. Physicians do not believe this, but thousands of people do, and therein consists the harm of these frauds. Of the nostrums there are two classes: The positively harmful nostrum containing opium, hasheesh, alcohol or chloroform. The negatively harmful nostrum, which comprises a large list and, unfortunately, contains many so-called ethical preparations endorsed by physicians, though the names of some are frauds, as are the medicines. Improvement is coming from the agitation against these nostrums. Some are now omitting their claim to cure consumption; one says the public is getting "wise" on consumption and something else, as cancer, must be taken up. The work of the public schools is creating a commendable sentiment in the minds of the young. The whole matter of nostrum control is now under readjustment throughout the country. The "patent-medicine" bill in New York passed the senate, but was killed in the house by the pernicious activity of drug interests, which secured the concession of certain unimportant drugs as amendments. These were adopted on the last day, and meant that the bill could not be passed at that session. Maryland fought a good fight, but the Bull's cough syrup and the bromo-seltzer people won out. In Mississippi a bill was killed by the committee on public health. Ohio and Indiana failed, and in Massachusetts a compromise bill was adopted. Many influential journals have come out for legislation. Another hopeful thing is that numerous journals have taken to publishing legitimate news regarding nostrums in spite of their advertisements.

DISCUSSION.

DR. FRANK BILLINGS, Chicago, said that it was unfortunate that in the discussion of this subject the two classes most needing to hear were not present—the laity who suffer from the nostrum traffic and the numerous members of the medical profession who aid the nostrum dealers. He made emphatic the point that all drugs for the specific cure of tuberculosis, whether ethical or not, do more harm than good. The treatment of tuberculosis by drugs to-day is largely the outcome of methods in vogue years ago, when we did not know the nature of tuberculosis. The laity believe in the efficacy of drugs and so, unfortunately, do many physicians who are not educated up to the present-day knowledge of the disease. These physicians in numerous instances are to be reached and educated rather than condemned. Their circumstances do not permit of travel and even of reading as they should. Education of this class is the duty of the association.

DR. J. W. IRWIN, Philadelphia, has made inquiry of druggists regarding the class of people who buy these nostrums for curing tuberculosis. Some believe that poor people buy to escape paying physician's fees, but it is surprising to find what a large number buy the preparations on the advice of physicians. Wealthy people also are patrons. The campaign of education must reach physicians, the laity, school children, teachers and pharmacists.

DR. E. L. TRUDEAU, Saranac Lake, as an illustration of the value of education, mentioned Saranac Lake, where are gathered a large body of people who certainly need cures as much as any one can, yet it would be difficult for nostrum sellers to go among the boarding-houses and dispose of their preparations; the people have been educated against them.

*(To be continued.)*

## ASSOCIATION OF AMERICAN PHYSICIANS.

*Twenty-first Annual Meeting, held at Washington, D. C., May 15-16, 1906.*

*(Continued from page 1643.)*

### Perinephritis Simulating Stone in the Kidney.

DR. JAMES TYSON, Philadelphia, has seen four cases in which the symptoms pointed to nephrolithiasis, but in which operation revealed no stone in the kidney. Search for a cause led to the discovery that there were dense adhesions of the perirenal fat to the capsule, and in some instances also adhesions between the capsule and the kidney itself. The capsule in certain of the organs showed distinct cicatricial markings. Relief was invariably obtained from operation, which consisted in splitting the capsule and thus freeing the kidney from pressure and other interference arising from the inflammatory condition. Three of the four patients were totally relieved, the fourth being helped for a time, the symptoms afterward returning. In this case the kidney was also adherent to the liver, the bands being freed when the capsule was split. The return of the symptoms after operation is attributed to the reformation of the attachment to the liver.

### Disseminated Sclerosis: Its Infrequency in This Country, and Its Clinical Manifestations.

DR. JOSEPH COLLINS, New York, said that this disease is quite frequent in Europe, but that relatively few cases are reported in this country. The belief that the disease is extremely infrequent here is not justified. The diagnosis is seldom made unless the four classic symptoms of Charcot—nystagmus, intention tremor, spastic paraplegia and scanning speech—are present, but all these are not found in every case. Dr. Collins has seen 65 cases of the disease; in only 26 of them were all the characteristic symptoms present. In 11 of the remaining 39 cases the patients were under observation long enough for all the symptoms to develop. Several types of atypical cases were described: 1. Spastic paraplegia in a non-syphilitic person under 40, with no bone disease, should raise the question of disseminated sclerosis, and if, in addition, there is loss of the abdominal reflex, there is no doubt as to the diagnosis. 2. In persons with pallor of the optic disc, with no inflammatory condition, unchanged by treatment, the chances are that within ten years one or all of the symptoms of sclerosis will develop. 3. The existence of spastic paraplegia, unaccompanied by the history of syphilis or pallor of the optic disc, means disseminated sclerosis. 4. Disseminated insular sclerosis not infrequently gives rise to symptoms like those of acute inflammatory processes in the cord or brain.

DISCUSSION.

DR. B. SACHS, New York, did not regard the diagnosis of disseminated sclerosis as easy. In 220 cases of organic nerve lesion he has made the diagnosis of multiple sclerosis 15 times, five additional cases being doubtful. He thinks that the disease is probably a little less common in this country than in Europe.

DR. WHARTON SINKLER, Philadelphia, believes that disseminated sclerosis is more common in this country than it is thought to be. However, there is apt to be a tendency to go to the other extreme and to make the diagnosis too frequently.

### Mental Disorders Associated with Acute Chorea.

DR. B. SACHS, New York, spoke of cases not belonging to chorea insaniens in which varying types of mental disturbance are associated with the choreic disturbances, the two developing simultaneously. These occur during the course of or follow toxic and infectious processes, and are met in cases of acute general chorea in subjects from 10 to 20 years of age. There if often mental dullness or possibly delirium, distinctly different than occurs in ordinary cases. The prognosis is usually grave. In one case the condition was associated with acute rheumatic endocarditis, the rheumatism, endocarditis and chorea all probably being due to the same cause.

### Recurrent Acute Pulmonary Edema.

DR. DAVID RIESMAN, Philadelphia, reported six cases of a variety of pulmonary edema which, though rare, is of great

clinical interest, as each attack seems to put the patient in imminent danger of death. Onset is sudden, the lungs and air passages rapidly filling with fluid which, as it is expectorated or runs from mouth or nose, is serous, frothy, and at times blood-tinged. Dyspnea is intense and râles are heard over the chest. Pulse is full and bounding or imperceptible at the wrist. At height of attack the patient appears in danger of suffocation. The first attack may kill, but recurrence is the rule. Dr. Riesman has seen this condition in association with chronic interstitial nephritis, arteriosclerosis, angina pectoris, asthma, and during pregnancy. Two of the six patients died during attacks, and one from cardiac dropsy. The cause is obscure, there being no single explanation. In the two cases of asthma the explanation of Welch suffices. When there is high arterial tension the action of toxins is the best explanation. Treatment, when there is high arterial tension and cyanosis, is venesection. Dry cupping, atropin and diffusible stimulants are indicated in certain cases.

DISCUSSION.

DR. F. P. KINNICUTT, New York, regards the pathogenesis as varied. In those cases occurring in arteriosclerosis there is hypertonicity of the vessels, which usually leads to damage of the myocardium. The sequence then in the production of edema is hypertonicity of vessels, vasomotor spasm, and sudden dilatation of the left ventricle.

DR. H. A. HARE, Philadelphia, emphasized the need of more accurate language regarding the condition of the vessels; by vasomotor spasm is probably meant vascular spasm. Rather against this view are the facts that the vessels in the pulmonary area possess a poorly developed musculature and there is also a scanty vasomotor supply. He regards pulmonary edema as the result of toxemia.

DR. S. J. MELTZER, New York, believes that change in the vessels is the cause of edema. He regards the use of adrenalin as dangerous in pulmonary edema, having seen patients die from the effects of a second injection of that drug. He recommends nitroglycerin.

DR. E. G. JANEWAY, New York, said there are other ways of eliminating serum without its being thrown into the lungs. Excessive perspiration sometimes occurs, and in one of his cases there was profuse diarrhea, the leakage of excessive fluid needing removal thus taking place in other ways. This suggests that the excess of fluid is the condition present and that more changes exist than those in the heart and vessels.

DR. F. P. SHATTUCK, Boston, stated that in acute pulmonary edema of the arteriosclerotic type he employs nitroglycerin. In one case the râles disappeared five minutes after the use of the drug. Morphin is also valuable.

DR. KINNICUTT has used adrenalin frequently in hospital wards. It never has given bad results and frequently does good.

DR. F. FORCHHEIMER, Cincinnati, has used adrenalin and obtained good results. He does not believe that adrenalin also produces edema.

DR. J. L. MILLER, Chicago, confirmed the point made by Dr. Meltzer as to the production of pulmonary edema in animals by the use of adrenalin.

DR. S. SOLIS-COHEN, Philadelphia, said his experience with adrenalin applied locally in edema of the larynx is good, but that edema of the larynx may also be caused by adrenalin. Acute pulmonary edema came on in a physician who was taking large doses of nitroglycerin under the supposition that he had angina pectoris. Adrenalin was given by Dr. Cohen and the edema subsided. Small doses of nitroglycerin were recommended. A second attack of edema subsided under the use of camphor. The patient is now doing well under the influence of one-thousandth grain doses of nitroglycerin, the supposed angina pectoris being really pulmonary edema.

DR. R. H. BABCOCK, Chicago, referred to a case of fatal pneumonia, during which the patient had several attacks of pulmonary edema, which were relieved almost at once by one fiftieth of a grain of atropin.

DR. J. H. MUSSER, Philadelphia, uses morphin early in these cases because there is shock in all of them. Nitroglycerin follows the morphin. In such cases the differential diagnosis between pulmonary edema and acute dilatation of the heart must be made.

DR. JAMES TYSON, Philadelphia, believes atropin to be the most satisfactory remedy in these cases.

### Some Dangers of Thoracentesis with Special Reference to Pneumothorax.

DR. GEORGE G. SEARS, Boston, spoke of the two accidents that may follow thoracentesis—sudden death and pneumothorax. Of the former there are 10 cases on record. Of the latter he has found 51 cases in the literature and adds four. The diagnosis in some instances is not easy, and this may account for some cases being overlooked. About one-third of the patients died, but it is doubtful if many died from the presence of air. The puncture of the solidified lung in one case suggests the need of avoiding the reckless use of the needle. It should be used only after all other resources of diagnosis have been exhausted.

### Therapeutic Principles Based on Pathologic Physiology.

DR. RICHARD C. CABOT, Boston, said that by pathologic physiology is meant the effort of Nature to react against the causes of disease, as by leucocytosis, hyperemia and similar methods. This form of treatment is to be distinguished from that directed against the etiology, from that destined to remove the results of disease, and from that intended to neutralize symptoms. This treatment aims first, to imitate or to supplement Nature, as illustrated by putting the patient in bed in asthenic conditions, setting broken bones, purgation, establishing passive hyperemia. Second, it aims to oppose Nature, as in forced feeding in Graves' disease, restraining a delirious patient, massage, counterirritation. Third, it aims to modify or to guide Nature, as in diverting thought from disease, giving opium, bathing in typhoid, dieting in diabetes. This type of treatment is not the best nor the worst; it is not so good as treatment directed to the etiology, or so bad as that given to combat symptoms. By this method one must depend on individual factors. Histories must be long and detailed. Not the diseased spot, but the whole patient must be studied.

### Pathologic Physiology of Chronic Arterial Hypertension and Its Treatment.

DR. THEODORE JANEWAY, New York, looks on hypertension as the attempt of the organism to maintain capillary flow through important organs and to overcome the effects of disease. This must be followed in turn by organic and functional changes. There are three lines of treatment—preventive, adjuvant and emergent. The first includes hygienic and dietetic rules, the giving of iodids and the exclusion of hypertensive influences. The second includes the use of vasodilators. The third, in cases of sudden conditions, includes venesection, vasodilators, etc. A point emphasized was that the height of the blood pressure is no criterion for the type of treatment.

### Therapeutics of Insufficient Kidney, Based on Pathologic Physiology.

DR. ROBERT B. PREBLE, Chicago, regards all the physicochemic methods of testing the function of the kidney, as cryoscopy, the use of methylene blue, etc., as open to grave objections. They should be used only in conjunction with older clinical methods. In cases of low excretion of urine due to heart disease the same precautions should be used as are employed in kidney lesions. The clinical manifestations of nephritis are due to toxins, hence the quantities of toxic materials ingested must be limited and the excretion of those already acting favored. The formation of toxins from food in the intestinal tract must also be borne in mind. Venesection is the most prompt means of eliminating toxins.

### Therapeutics Based on the Physiologic Principles of Environment.

DR. WALTER B. JAMES, New York, said that not enough attention is paid to environment in hospital wards. This includes two phases, the psychic and the physical. Under the former are such points as showing the specimens from one case in the presence of another patient with the same disease, recovery from anesthesia in the presence of others to

undergo operation, death in the presence of other sick people. Under the second head he discussed ventilation. There is a difference of opinion as to what ventilation is. He regards expired air as harmless, except for the $CO_2$ it contains. The temperature and stillness are important features. Most artificial systems of ventilation are faulty, as they attack the problem from the standpoint of respiration instead of the cutaneous needs. He has had a ward cut off from the ventilating system and opened the windows. Typhoid fever patients have been under a sheet only at a temperature of 36°; why not abstract heat continuously, he asks, instead of every three hours? On the whole, his results have been satisfactory.

**Physiologic Principles of Feeding in Typhoid and Other Fevers.**

DR. F. P. KINNICUTT, New York, reported composite statistics made up from many different hospitals, and discussed at length the general principles governing this method. He secured 733 cases in which the so-called liberal diet was given, and 4,277 in which the milk or fluid diet was followed. In relapses the two are about equal, but in the matter of hemorrhage, perforation and mortality, the liberal diet has a decided advantage over the other. Kinnicutt favors basing the diet on individual cases and not on a routine, especially a fluid diet. If more food is given, the patient will suffer less, and the long, tedious convalescence will be wiped out.

**Physiologic Limitation of Rectal Feeding.**

DR. D. L. EDSALL, Philadelphia, asserted that the physiologic limitation of rectal feeding is a very narrow one. In a very large proportion of cases the quantity absorbed is only a small part of the amount necessary to maintain nutritional equilibrium. Water and salts are the principal ingredients that are absorbed by the intestine. In the great majority of cases 150 to 300 calories only are thus obtained; in a few cases 500 to 600, and in rare instances the person is kept in good condition. The last group of cases are explained in various ways. Persons who are greatly reduced when feeding is begun may maintain their lowered equilibrium, but this is not health. Emaciated persons may thus increase in weight by the absorption of water. Many cases reported as doing well by this feeding are examples of loose statements. It is possible that in rare instances the ileocecal valve allows the passage of the enemata into the small intestine. Dr. Edsall does not anticipate very much improvement in this method of feeding, as the limitations are of a nature not to be overcome. It may be bettered by the production of artificial substances which the bowel will more readily absorb. At present the dextrinized carbohydrates are the most promising of the carbohydrates employed.

DISCUSSION.

DR. W. S. THAYER, Baltimore, said that Dr. Janeway's experiments show that polyuria begins before blood pressure rises, increased pressure and secondary heart hypertrophy coming on after the polyuria has been present some time. Thayer declared that he has always felt that diet in typhoid fever should be regulated as in other cases of septicemia. The patients of country doctors often are given the best chance in some respects, because there is not the routine as laid down in hospital work.

DR. W. H. THOMPSON, New York, said no mention had been made of changes in the veins analogous to those in the arteries. In them are found hyperemia, inflammation of the intima, atheroma, and calcification when there is no toxemia to cause them. Here strain is acting. Atheroma anywhere is a sign of abnormal strain and means an excess of adrenal substance in the blood.

DR. THOMAS MCCRAE, Baltimore, prefers conservatism on the side of simple liquid diet in typhoid fever. While probably 75 per cent. of patients will recover without this care in diet, we do not know which they are, and we must look out for the others. The statistics presented deal with series in which the mild and the severe cases were fed differently and hence are not of great value.

DR. H. A. HARE, Philadelphia, endorsed the feeding of typhoid patients. During the first ten days he gives milk diet; then when the patient is accustomed to the bed, the surroundings, the attendants, etc., the diet as outlined by Dr. Kinnicutt is ordered. Patients may not do well if the liberal diet is given at first, but it is exceedingly advantageous, he considers, during the later periods. Typhoid ataxia is not seen in patients thus fed. The nitrites are entirely futile in some cases of hypertension, those in which fibrosis of the vessels is present. Iodids, massage and rest do better. Nitroglycerin in these cases will not cause the headaches it does in spasm cases.

DR. ALFRED STENGEL, Philadelphia, stated that while a certain degree of sclerosis probably exists in cases of high arterial tension, there are additional causes and consequently considerable fluctuation in pressure is possible. The diastolic pressure is of great importance in the study of the condition, as if it be not taken into account, an apparent fall with pressure really about the same, may be taken for a real drop.

DR. F. P. SHATTUCK, Boston, has been using the liberal diet for typhoid patients for 13 years, feeding according to the digestive power of the individual rather than according to the disease. The subjects so fed go along more comfortably, and convalescence is shorter. He gives this diet during ulceration, as he supposes all patients have at least some ulcers, but not during attacks of diarrhea.

DR. HENRY KOPLIK, New York, gives more than a milk diet to prevent extreme emaciation in children, who do not recover from this condition so readily as adults. If emaciation be extreme, it is advisable to give the liberal diet even early in the attack.

*(To be continued.)*

## Therapeutics

**[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]**

**Miliaria (Prickly Heat).**

In carrying out the prophylactic treatment of prickly heat the *Cyclopedia of Medicine and Surgery* recommends that children be lightly clad in thin woolens and exposed to heat as little as possible. Constipation should be avoided. The following is recommended, to be applied locally:

| | | | |
|---|---|---|---|
| R. | Acidi carbolici | m. xxx | 2 |
| | Acidi borici | 3i | 4 |
| | Zinci oxidi | 3iss | 6 |
| | Glycerini | 3ii | 8 |
| | Alcoholis | 3ii | 60 |
| | Aquæ q. s. ad | 3vi | 180 |

M. Ft. lotio. Sig.: To be applied locally to the skin.

As a dusting powder the following combination is of value:

| | | | |
|---|---|---|---|
| R. | Magnesii carb. | | |
| | Acidi borici | | |
| | Pulv. amyli, āā | 3ii | 8 |

M. Ft. pulvis. Sig.: To be dusted over the areas involved.

When the entire body is involved the patient should receive bran, starch or alkaline baths.

Hyde recommends lotions of lead or of lead and opium in some cases, or alcoholic and ethereal solutions containing camphor and glycerin similar to the following:

| | | | |
|---|---|---|---|
| R. | Acidi carbolici | 3iss | 6 |
| | Glycerini | 3ii | 8 |
| | Mentholis | 3i | 4 |
| | Spts. vini rectif. | 3i | 30 |
| | Aquæ q. s. ad | 3viii | 240 |

M. Ft. lotio. Sig.: To be applied locally.

Or the following:

| | | | |
|---|---|---|---|
| R. | Olei lini | | |
| | Liq. petrolati, āā | 3ii | 60 |
| | Olei bergamii | 3ss | 2 |
| | Aquæ calcis q. s. ad | Oi | 500 |

M. Sig.: To be applied externally to the body.

The foregoing combination makes a creamy solution which often is very grateful to the skin. If desired, zinc oxid or carbolic acid may be added.

The general treatment of the patient, according to Hyde, should consist in withdrawal from light and heat, the use of unstimulating food and drink, unirritating apparel, and rest. The free use of lemonade or vichy water or any reliable carbonated water is of value in aiding elimination and in supplying the fluids demanded by the cutaneous loss through evaporation. Lassar's paste is serviceable in some cases of pruritus. It is composed as follows:

℞ Resorcini
Zinci oxidi
Pulv. amyli, āā ..... ʒi 4
Liq. petrolati ..... ʒii 8

M. Ft. unguentum. Sig.: To be applied locally.

Or resorcin may be used in the following combination:

℞ Resorcini ..... gr. xxx 2
Creosoti ..... m. xv 1
Lanolini ..... ʒii 60

M. Ft. unguentum. Sig.: To be applied locally to the affected areas.

### Copaiba.

Copaiba, according to Beasley, is a diuretic and a stimulant to the mucous membrane in general. It is of value in diseases of the genitourinary organs, as in gonorrhea and gleet, and as an expectorant and disinfectant in bronchitis. Its disadvantages are that it occasionally produces disagreeable eructations and sometimes produces an erythematous rash.

In gonorrhea the following combination is recommended:

℞ Copaibæ ..... ʒss 2
Spts. etheris nitrosi
Liq. potassæ, āā ..... m. x 65
Mucil. acaciæ ..... ʒi 4
Aquæ cinnamomi q. s. ad ..... ʒi 30

M. Sig.: One such dose after each meal. Or:

℞ Copaibæ
Essentiæ pepsini, āā ..... ʒss 2
Liq. potassæ ..... m. xii 75
Pulv. acaciæ ..... ʒss 2
Aquæ menth. pip. q. s. ad ..... ʒi 30

M. Sig.: One such dose three times a day after food.

In the later stages of gonorrhea the following combination is recommended:

℞ Copaibæ ..... m. xx 1|30
Balsami peruviani ..... m. iii 20
Tinct. benzoini ..... m. x 65
Mucil. acaciæ ..... ʒiss 6
Syr. aurantii ..... ʒss 2
Infus. buchu q. s. ad ..... ʒi 30

M. Sig.: One such dose to be taken three times a day, diluted with an equal volume of water. Or:

℞ Copaibæ ..... m. xx 1|30
Mucil. acaciæ ..... ʒi 4
Tinct. belladonnæ ..... m. iii 20
Ext. buchu flu ..... ʒss 2
Decoct. tritici q. s. ad ..... ʒi 30

M. Sig.: To be taken at one dose in a wineglassful of water, and such a dose repeated three times a day.

The following combination is recommended by Beasley in cases of gleet:

℞ Olei copaibæ ..... m. v 30
Salol ..... gr. v 30

M. Ft. capsula No. i. Sig.: One such capsule three times a day. Or:

℞ Olei copaibæ ..... m. v 30
Methylene blue ..... gr. iii 20

M. Ft. capsula No. i. Sig.: One such capsule twice daily.

As a disinfectant and expectorant in bronchitis the following is of value:

℞ Olei copaibæ
Olei cubebæ
Olei santali, āā ..... m. iii 20
Mucil. acaciæ
Syr. tolutani, āā ..... ʒss 2
Decoct. hordei decort. (1-15) q. s. ad ..... ʒi 30

M. Sig.: To be taken at one dose, and repeated three times a day in similar doses.

### Itching of the Skin.

In the treatment of itching of the skin, Biddle, in *Journal of the Mich. State Med. Society*, recommends lukewarm and moderately hot baths, very hot applications and alternate applications of heat and cold. In some cases he recommends acid baths, while in others alkaline baths are preferable. For an acid bath the following combinations are recommended:

℞ Acidi nitrici fortior ..... ʒss 2
Acidi hydrochlor. fortior ..... ʒi 30
Aquæ q. s. ad for bath.

Or for an alkaline bath the following:

℞ Potass. carb.
Sodii carb., āā ..... ʒiii 90
Sodii biboratis ..... ʒii 60
Pulv. amyli ..... ʒviii 240
Aquæ q. s.

Sig.: For a bath.

The most commonly used and the most successful antipruritics are phenol, camphor and menthol, owing to their stimulating and to their local anesthetic effect. Biddle never recommends carbolic acid in strong solutions. The following strength, according to his experience, is preferable:

℞ Acidi carbolici ..... m. xx-xl 1|30-2 60
Aquæ q. s. ad ..... ʒiv 120

M. Ft. lotio. Sig.: Apply locally.

Or the following combination:

℞ Acidi carbolici ..... ʒiii 12
Glycerini ..... ʒi 30
Aquæ ..... Oi 500

M. Ft. lotio. Sig.: Apply locally.

Menthol is recommended, combined as follows:

℞ Menthol ..... gr. x-l |65-3.30
Olei olivæ ..... ʒi 30

M. Sig.: To be applied locally.

Astringents may be indicated and in such cases he recommends applications containing alum in weak solution, citric acid or the subacetate of lead in the following combination:

℞ Plumbi subacetatis ..... ʒii 8
Aquæ ..... Oi 500

M. Fiat lotio. Sig.: Apply locally. Or:

℞ Acidi hydrocyanici, dil. ..... ʒss 2
Aquæ ..... Oi 500

M. Fiat lotio. Sig.: Apply locally.

In the class of disinfectants Biddle recommends some preparation containing tar. For its anesthetic effect locally, cocain solutions are recommended, especially in cases of pruritus vulvæ, using great care in its use in order not to establish the habit. For this same purpose resorcin may be prescribed in solution or ichtyol or a silver nitrate solution, the latter applied locally with a brush.

### Cholera Infantum.

In considering the treatment of cholera infantum, Cotton, in his text-book of "Diseases of Children," states that the sudden onset and rapid progress of the disease leaves but little time in which to employ remedies, which are frequently successful in gastrointestinal intoxications of a milder type. The early indications for treatment are to counteract the profound depression and to overcome the tendency to blood concentration by increasing the volume of fluids in the body. Food is not indicated in the first forty-eight hours, as digestion and assimilation are impossible in such a disturbed state of the circulation. Brandy is recommended from the beginning or small doses of iced champagne. Digitalin and caffein may be resorted to, given hypodermically, to sustain the heart's action.

In the algid state the empty superficial vessels and a failing pulse may demand nitroglycerin in doses ranging from gr. 1/200 to gr. 1/100 (.0003-.00065); morphin, gr. 1/50 to 1/100 (.0013-.0006), with atropin, gr. 1/500 to 1/1,000 (.00013-.00006), for a child 1 year of age, given hypodermically, is regarded by Cotton as a valuable agent. This dose may be repeated every hour or two for the relief of vomiting and purging and to sustain the heart's action.

When stupor comes on, opium is contraindicated. He mentions the probable value of suprarenal extract in this disease accompanied by such high mortality owing to the similarity of symptoms between chloroform intoxications and those pro-

duced by functional arrests of the suprarenal gland. Next to the need of stimulation is the demand of the system for water. Ice water is recommended given in small quantities by the mouth. Enemas of sterilized water containing sodium bicarbonate and sodium chlorid, each a dram (4.00) to the quart of water, are advised.

Hypodermoclysis of normal saline solutions, from four to six drams (15. to 24), should be given every one or two hours, depending on the frequency of the discharges. Hot baths and hot packs are indicated in the algid state and to aid superficial circulation.

### Method of Disguising the Taste of Castor Oil.

Dr. Charles J. McGee, Leavenworth, Kan., writes that while no doubt many of the published formulas for disguising the taste of castor oil answer the purpose, the following method does not require the aid of the pharmacist and yet completely masks the disagreeable taste of the oil:

"Place a tablespoonful of castor oil in an ordinary glass, and to this add the juice of a medium-sized lemon and stir. Then add a little ordinary baking soda (a lump about the size of a large bean), stirring quickly, and drink while effervescent."

Dr. McGee states that he uses this method exclusively and has never had a complaint from a patient when a second dose was ordered.

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## *Medicolegal*

### Injury as Cause of Tuberculosis.

The First Appellate Division of the Supreme Court of New York says, in the case of Sallie vs. New York City Railway Co., where a man was thrown to the ground while he was in the act of alighting from a car, that the evidence tended to show that before he was thrown from the car he was in perfect health; that when he was thrown from the car one of his ribs was fractured and he was injured in other respects; that he was immediately taken to his home and put in bed; that he gradually grew worse from day to day, and at the end of the second week pleurisy developed in the region of the fractured rib; that the pleurisy progressed rapidly, and shortly thereafter a tubercular condition of the left lung was discovered, which also progressed so rapidly that the injured person died about nine weeks after he was injured. These facts being established, the jury might have found that the injury was the direct cause of the tuberculosis, and this whether the tuberculosis were brought about by the pleurisy or from the weakened condition of the man, which permitted the tubercular germs to develop. If it be conceded, as contended by the defendant, that tuberculosis is a germ disease, and that the germs must enter by the mouth, this would not deprive the plaintiff (the administrator of the man's estate) of a recovery if the germs would not have developed, except for the weakened condition of the man caused by the injury received through the wrongful act of the defendant. There are authorities to the effect that if there is evidence from which the jury may find an unbroken connection and continuous operation between a disease, no matter what, and the injury, then it is for them to say whether the wrongful act which caused the injury is the proximate cause of the disease. If they find it is, then the plaintiff is entitled to recover such damages as may have been sustained. There must, however, be satisfactory evidence justifying such a finding. The matter can not be left to conjecture or speculation. There must be an unbroken connection between the injury and the disease. The evidence here, as already said, would have justified a finding that there was such unbroken connection between the disease which caused the death of the man and the injury to his rib, and therefore there was error in dismissing the complaint.

### Statements on "Patent Medicine" Labels and Wrappers.

The United States Circuit Court in Rhode Island says, in Moxie Nerve Food Co. of New England vs. Holland, that there is force in the argument that extravagant claims, statements of marvelous recoveries and secrecy and mystery as to ingredients are such badges of fraud as to warrant a court of equity in refusing to extend a presumption of good faith to a complainant making such claims and in refusing relief. If, however, in respect to ordinary sales, courts of law base the rule of *caveat emptor* (let the purchaser take care) on the commonsense view that in disposing of their wares men will not adhere to the truth, and that a vendor's opinion concerning the merit of goods is, as a practical matter, presumptively unreliable, is it not somewhat inconsistent for a court of equity to act on a presumption that a "patent-medicine" vendor tells the truth on his labels and wrappers? The statements on the label or wrapper of a "patent-medicine" bottle do not prove themselves, and are not competent to prove, the efficacy of its contents. Notoriety, general use and commercial value can more readily be attributed to enormous sums expended in advertising than to actual merit. Would it not be reasonable for a court of equity to hold that a complainant seeking to protect his proprietary rights as the owner of a "patent medicine" should produce legal evidence that it is in fact what it purports to be? Assuming that the efficiency of medicine is a matter of opinion, the only evidence legally admissible to support claims of this character is the testimony of experts whose qualifications to testify are made to appear to the satisfaction of the court. In this case the complainant introduced affidavits of laymen, who said that they had had various diseases which had been cured. It would seem that this evidence is legally inadmissible on the issue of the curative efficiency of a medicine. The only competent legal evidence to prove this is the testimony of experts giving their opinion. Again, the court says that it is a somewhat novel and serious question of law whether the representations as to curative power can be regarded, in view of certain decisions, as a representation whose truth may be inquired into. But this court would be very loath to adopt a rule that in determining whether a complainant comes into court with clean hands a technical line should be drawn between representations of pure fact, such as the ingredients of a medicine, and representations as to the curative power of the contents of a bottle, and classify the latter as representations of opinion, the falsity of which is practically incapable of proof.

### Contract by Employe to Allow Examination Invalid.

The Court of Civil Appeals of Texas says, in Galveston, Harrisburg & San Antonio Railway Co. vs. Hughes, an action for personal injuries brought by the latter party, that the defendant company, among other things, pleaded in bar of the action an agreement signed by the plaintiff, in consideration of his employment, to the effect that, if he should sustain any personal injury in the service of the defendant, he would allow its surgeon and any medical examiner he might select to examine his person as often as the company might deem necessary in respect to the alleged injury, waiving all objection to such surgeon or medical examiner testifying whenever called on by the company, and agreeing that his refusal to allow such examination to be made or testimony to be given, should be a bar to the institution and prosecution of any action on account of such injuries. But the Texas statute provides: "No contract made between the employer and employé based on the contingency of death or injury of the employé and limiting the liability of the employer under this chapter, or fixing damages to be recovered, shall be valid or binding." This statute has reference to any contract made in advance of an injury to the employé, based on the happening of such injury, which seeks to limit or restrict the employer's liability. The contract in question was based in part on the event of injury to the plaintiff, and restricted the defendant's liability by doing away with it altogether. Therefore the plea in bar alleging a refusal to allow an examination constituted no bar to the further prosecution of this action.

### Statements as to How Accident Occurred Not Privileged.

The Third Appellate Division of the Supreme Court of New York says that, in the case of Benjamin vs. Village of Tupper Lake, brought to recover damages for an injury alleged to have been sustained on a defective sidewalk, a physician who had treated the plaintiff for the injury was called by the defendant and testified that he had a conversation with her as to the

manner in which this accident occurred. He was then asked: "What did she tell you as to that?" Besides, he stated that "this talk was while I was making an examination of her in order to prescribe for her and as a part of my examination." The court holds that it was error to sustain an objection to the question. He says that the witness nowhere stated that it was necessary for him to know how the accident happened in order to enable him to act for the plaintiff in a professional capacity, but it was apparent that it was not necessary for him to know how the accident happened in order to enable him so to act. It was sufficient for that purpose that he knew or was informed of the character of the injuries received and not as to how they were received. If the plaintiff in such talk made admissions to the physician as to the manner in which the accident happened, it not appearing that the information so acquired was necessary to enable him to act in that capacity, such admissions were not protected by section 834 of the New York Code of Civil Procedure forbidding a physician to disclose information acquired while attending a patient in a professional capacity and necessary to enable him to act in such capacity.

## Current Medical Literature

### AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

#### Medical Record, New York.

*May 19.*

1 The Russian Red Cross. J. Van R. Hoff, U. S. A.
2 *Treatment of Chronic Diseases of the Heart by the Nauheim Methods; Its Indications and Contraindications. F. P. Kinnicutt, New York.
3 *Treatment of Tabes Dorsalis. F. Von Raitz, New York.
4 *Sanitary Supervision of Pulmonary Tuberculosis and Other Communicable Diseases by the Department of Health of the City of New York. J. S. Billings, Jr., New York.
5 Case of Complete Inversion of the Uterus. J. S. Emans, New York.

2. **Treatment of Chronic Diseases of Heart by Nauheim Methods.**—In Kinnicutt's experience the most brilliant successes are obtained from this method of treatment in cases of enfeebled, relaxed, dilated hearts, with or without a murmur of muscular or relative mitral incompetence following prolonged and exhausting diseases, the various acute infectious diseases, and also associated with anemia of varied causation.

3. **Treatment of Tabes Dorsalis.**—Von Raitz emphasizes the necessity of employing such means in tabes dorsalis as will improve the nutrition, not only of the system as a whole, but of the affected nerve tissues, and which will change the pathologic conditions to the normal state. He advocates the breathing of pure air, exposure to sunshine, congenial surroundings, plenty of sleep, and occupation of mind and body. The patient should eat what agrees with him best. He also advises salt brine friction of the body in a warm bath twice a week. Clothing should be warm but not overheating. Electricity will increase the nutrition of the cord and brain and the muscular and peripheral nerves. Von Raitz does not believe in the rest treatment, but requires his patients to walk as much as possible.

4. **Sanitary Supervision of Communicable Diseases.**—Billings gives the general procedure which the department of health follows in its sanitary supervision of the diseases mentioned. All cases of pulmonary tuberculosis, typhoid fever and cerebrospinal meningitis occurring in the city of New York are registered at the department of health, and all necessary steps are taken to render that registration as accurate and complete as possible. Every person (or the family of such persons) suffering from these diseases is furnished instruction as to the measures to be taken to prevent its extension. Bedding, and so on, used by persons suffering from these diseases, is disinfected. All premises which have been occupied by persons suffering from pulmonary tuberculosis or cerebrospinal meningitis, on death, removal, or recovery of the patient, are disinfected with formaldehyd, or renovation is ordered. Charitable assistance or hospital care is provided so far as is possible for all persons wishing or requiring it. The general public is educated as to the nature of the above diseases, the precautions to be taken against their spread, the advisability of institution and sanatorium treatment and so on. Patients suffering from pulmonary tuberculosis, with no attending physician, are visited at their homes by nurses and given necessary assistance and advice, are provided with extra diet (milk and eggs) when necessary, and are given free medical treatment in the department clinics. Information as to the probable source of infection (water, milk, oysters) is obtained in every case of typhoid fever, and suitable action is taken. In cases of cerebrospinal meningitis quarantine of patients at their homes is enforced and other children in the family are excluded from school. Malarial fever, abortion, puerperal fever, septicemia, erysipelas and pneumonia are reportable diseases, but at present the patients are not visited.

#### New York Medical Journal.

*May 19.*

6 *Rectal Anastomosis of the Ureters. C. Beck, New York.
7 *Surgical Treatment of Floating Kidney, with Description of Operation. F. W. McRae, Atlanta, Ga.
8 *Myorrectomy. C. P. Noble, Philadelphia.
9 Distribution of the Eosinophilic Leucocytes in a Fatal Case of Hodgkin's Disease with General Eosinophilia. W. T. Longcope, Philadelphia.
10 Essential Nature of Dementia Præcox. W. K. Walker, Dixmont, Pa.
11 Surgical Treatment of Chronic Dyspepsia. G. E. Brewer, New York.
12 Puerperal Infection. H. J. Boldt, New York.
13 Delayed Value of Surgery in Epilepsy in Certain Cases. W. P. Spratling, Sonyea, N. Y.

6. **Rectal Anastomosis of Ureters.**—Regarding unilateral implantation of the ureter, as it becomes indicated in defects caused by destructive processes, like tuberculosis or carcinoma of the bladder, or by tumors, vesicovaginal fistula with destruction of ureter, ureteral fistula or trauma, Beck finds that the stenosis is best avoided by splitting the lower end of the ureter so that two flaps are formed which, like two wings of a folding door, are placed into the slit made in the bowel. The ends are made triangular so that a rhomboid figure is attained when the flaps are fastened to the bowel. The large surfaces thus created favor agglutination.

7. **Surgical Treatment of Floating Kidney.**—McRae makes the initial incision, beginning just back of the anterior border of the erector spinæ, immediately below the twelfth rib, extending obliquely to about one inch behind the anterior superior iliac spine, down to the deep fascia. A short cut, one and one-half to two inches long, is next made, in the same direction, beginning just over the anterior border of the erector spinæ, through the fibers of the latissimus dorsi. The deep lumbar and transversalis fasciæ are cut directly downwards to the iliac crest. The latissimus dorsi, the erector spinæ and the quadratus lumborum are pulled backward, the abdominal obliques and transversales forward. To this point the operation is similar to the muscle splitting operation of Mayo Robson. This freely exposes the fat and the iliohypogastric and ilioinguinal nerves. These nerves are pushed aside and the kidney delivered between them, by forceps traction on the fatty capsules, without handling or trauma. A flap of the fibrous capsule about one and one-half inches square is next raised from the posterior surface of the kidney, beginning just in front of the hilum, separated from the cortex by careful dissection, to the convex border of the kidney. The capsule is incised along the convex border of either pole of the kidney, reflected toward the hilum, thus completely exposing the posterior surface of the organ.

Two mattress sutures are next inserted, somewhat similar to the method of Bradle, through capsule just in front of the hilum, including the reflected flaps. These sutures with the suspensory ligament made from the reflected posterior fibrous capsule, hold the kidney high up, well back in the hollow of the loin, nearer in its normal position than is done in any other operation. The fatty capsule pushed in front acts as a protecting cushion. The raw posterior surface adheres firmly. The kidney is next replaced, the mattress catgut sutures passed deeply through the posterior muscles, in front of the ilioinguinal nerve and tied over muscles, but underneath fat and skin. A heavy catgut suture is next passed through either angle of the flap (suspensory ligament) so as to approximate

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the separated muscles and cut fasciæ. A cigarette drain is placed between these sutures to the raw surface of the kidney. The muscles and fasciæ are accurately closed with catgut, above and below these sutures. The skin and superficial fat are accurately approximated by interrupted silkworm gut sutures, with a needle on each end, passed from within out, each suture taking a good bite of deep fascia and muscles. A few catgut sutures are put between the silkworm gut sutures where necessary to approximate the skin.

The wound is dressed with gauze wrung out of hot salt solution and absorbent cotton, held smoothly in place by broad adhesive strips, with an abdominal binder over all. The dressing is changed daily until the drain is removed, usually in twenty-four to forty-eight hours, according to amount and character of drainage. After the drain is removed a dry sterile dressing is put on and allowed to remain until time to remove the sutures, generally on the seventh or ninth day. The patient is kept on the back or operated side for two weeks, and in bed for three to four weeks. A well-fitted abdominal supporter, properly padded, is recommended to be worn for from three to six months. It is a valuable adjunct to the operation. The supporter tends to correct any coexisting enteroptosis, inspires confidence and makes it difficult to wear a tight corset.

8. **Myomectomy.**—Noble claims that myomectomy preserves the possibility of conception, but the probability of it is slight, and in most cases the advantage to the patient lies rather in the fact that the woman has the hope of conception, as contrasted with the certainty of having lost it. From the practical standpoint, the conclusion is inevitable that, so far as the question of pregnancy is concerned, it is of little moment, except in the group of women who ardently desire to bear children, and that in considering the question of hysterectomy versus myomectomy in a woman who does not so express herself, the question of pregnancy is of small practical importance. In his own practice there have been 66 myomectomies out of a total of 337 operations for fibroid tumors.

Noble says that he is not inclined to broaden the field of myomectomy beyond this proportion. If he were to make any change in his practice it would be in the direction of increasing the proportion of vaginal myomectomies in comparatively young women in whom it is still desirable for pregnancy to occur. Vaginal hysterotomy, combined with anterior colpotomy, will enable the surgeon to remove submucous and partly intramural fibroids with safety in many cases. Otherwise he shall continue in the future as he has in the past, to limit the field of myomectomy to the removal of fibroid polyps and submucus fibroids by the vaginal route, and subperitoneal fibroids, when single, or at all events limited to two or three tumors, occurring in childless women less than 40 years of age, by the abdominal route.

### Boston Medical and Surgical Journal.

*May 17.*

14 *Treatment of Chronic Diseases of the Heart by the Nauheim Methods. F. P. Kinnicutt, New York.
15 *Treatment of Organic Heart Disease by the Pneumatic Cabinet. C. E. Quimby, New York.
16 *Depletion in Heart Disease. F. C. Shattuck, Boston.
17 Use and Abuse of Digitalis. F. Pfaff, Boston.
18 Biographic Clinic on Tchaikovsky. (Concluded). G. M. Gould, Philadelphia.

14. See abstract No. 2.

15. **Pneumatic Cabinet in Organic Heart Disease.**—After nearly 30 years' observation and reasonably careful study of the results obtained by other methods in the hands of acknowledged authorities, and 14 years' personal experience in the use of the cabinet, Quimby is firmly convinced that it affords more immediate, extensive and lasting relief than any other known measure, although it does not cure incurable organic heart lesions. He says that its use is based on such strictly scientific principles, and the results are so plainly determined by established physical laws, as to justify its description as the nearest approach to the ideal method of treatment in organic cardiac disease.

16. **Depletion in Heart Disease.**—Shattuck accomplishes this either by the abstraction of blood, by means of venesection or leeching or wet cups, by purging and by sweating. The first is the more rapid. If leeches are used the hepatic region is a convenient place, and it is usually well to increase the bleeding by a poultice over the bites. Outside of a hospital he considers purging preferable if there is time. An ounce or two of Epsom salts, in saturated solution, in black coffee, is often serviceable if the stomach will stand it. In some cases compound jalap powder, elaterium or croton oil is preferable. Sweating is best carried out in a cabinet, the patient sitting up. The serous cavities can be tapped. If edema of the legs be hard and brawny, he finds Southey's tubes, modified, helpful. A thoroughly sterilized aspirator needle or trocar of fair caliber can be thrust an inch or more upward into the subcutaneous tissue of the outer aspect of each lower leg or of the thigh, the skin having been previously carefully cleaned. The needle is then packed around with sterile cotton or gauze in order to keep the skin as dry as possible, and is connected by rubber tubes with a bottle hung under the bed. Shattuck regards the old practice of scarification as dangerous. He does not use calomel either as a purgative or diuretic unless he is certain that the kidneys are suffering from nothing more than passive-congestion.

### St. Louis Medical Review.

*May 12.*

19 Treatment of Diseases of the Accessory Sinuses. M. A. Goldsteln, St. Louis.
20 Pharmacology of Ions. (Concluded). O. H. Brown, St. Louis.

*May 19.*

21 Injuries of the Cranium. (To be concluded). W. L. Estes, South Bethlehem, Pa.

### Lancet-Clinic, Cincinnati.

*May 19.*

22 Considerations of Para- and Peri-Uterine Inflammations. C. D. Palmer, Cincinnati.
23 Appendicitis; Its History, Its Differential Diagnosis, Its Pathology and Etiology, Its Medical and Surgical Treatment. R. E. Haughton, Richmond, Ind.
24 *Shall the Profession or the Laity Be Responsible for the Death-rate in Appendicitis? J. C. O'Day, Oil City, Pa.

24. See abstract in THE JOURNAL, Nov. 4, 1905, page 1435.

### Annals of Surgery, Philadelphia.

*May.*

25 Resection of Portion of the Chest Wall and of the Diaphragm, for Primary Sarcoma of the Pleura. S. Deruginsky, Moscow, Russia.
26 *Observations on the Diagnosis and Treatment of Typhoid Perforation. G. Woolsey, New York.
27 *Combined Operation for the Removal of the Appendix and the Cure of Right Inguinal Hernia. F. Torek, New York.
28 *Appendicular Femoral Hernia. A. C. Wood, Philadelphia.
29 Inguino-Properitoneal Hernia; Inguino-Interstitial Hernia. A. E. Halstead, Chicago.
30 Etiology of Certain Congenital Tumors of the Groin. R. H. Russell, Melbourne, Australia.
31 Determination of the Functional Capacity of the Kidneys. A. A. Berg, New York.
32 Ureteral Calculus. J. B. Deaver, Philadelphia.
33 Transperitoneal Examination of the Ureter in Cases of Suspected Ureteral Calculus, and the Combined Intraperitoneal and Extraperitoneal Ureterolithotomy. J. H. Gibbon, Philadelphia.
34 X-Ray Findings in a Case of Gritti-Stokes Amputation. E. R. Corson, Savannah, Ga.
35 Epiphyseal Separation of the Great Trochanter. C. O. Thienhaus, Milwaukee.

26. **Typhoid Perforation.**—The average period of the disease at which perforation occurred in Woolsey's group of 17 hospital cases was the twenty-seventh day of the disease. In 4 of the 17 cases there had been previous hemorrhage, in at least 1 case distention had been a marked feature, but in the majority of cases the previous course had been that of a typical typhoid and not unusually severe. There was only one symptom that was nearly uniformly present in all the cases, and that was abdominal pain, usually coming on suddenly and generally severe. It was present in 15 out of 17 cases, and slight pain was present in another case. It was usually complained of in the lower half of the abdomen and most often on the right side. In the one remaining case there was no pain, and here an apparently walled-off cavity containing fecal matter and lymph was found on operation. In the case in which the pain was slight there was no perforation in the ileum, but sloughing areas in the sigmoid with perforation. Tenderness was the next most common symptom, being noted in 7 cases in the early stages and in 5 others subsequently. Rigidity was only mentioned in 4 cases at the outset, but developed in 9 others before operation.

Vomiting was present in 4 cases as one of the initial symptoms, often in consequence of the severe abdominal pain, but in one case without any pain or other symptom but weakness. Vomiting was present in 7 other cases. An initial fall of temperature was not noted in any case. Among the late symptoms more or less distention or tympanites was noted in 13 cases, dullness in the flanks in 4, diminution or absence of abdominal breathing in 5 and of the liver dullness in 5. The leucocyte count was high (over 12,000) in 3 cases and somewhat high for typhoid in 4 (7,700, 7,900, 8,000, 9,200), but in one of the latter it had been 12,000 six days before. In others it remained low. Rise of temperature, pulse and respiration was the rule; in some cases the temperature became high. Woolsey emphasizes that (1) the value of severe pain of sudden onset in the lower half of the abdomen as an early sign of perforation and its increased value as an indication for operation when associated with localized tenderness and rigidity; (2) the importance of exploratory operations in case of doubt in view of the good results which follow if no perforation is found and of the earlier period at which the operation is done if perforation is present.

27. **Combined Operation of Appendectomy and Herniotomy.**—Torek describes the operation as follows: An imaginary line is drawn from the anterior superior spine of the ileum to the umbilicus. A point on this line at a distance equal to one-quarter of its length from the iliac spine marks the beginning of the incision, which is carried down from here to the external inguinal ring. The aponeurosis of the external oblique is exposed throughout the length of the incision. This fascia is then incised in the direction of its fibers, as is customary in the gridiron operation for appendicitis, exposing the internal oblique muscle; but the incision is prolonged downward so as to terminate at the apex of the external inguinal ring. The aponeurosis of the external oblique is pared off from the underlying parts in the usual manner, on the outer side exposing Poupart's ligament. Then the hernia operation is proceeded with up to the point where the sac is cut off. Here the hernia operation is intermitted and attention turned to the appendix. The fibers of the internal oblique and transversalis are separated bluntly in the usual manner, the peritoneum is opened, the appendix removed; then the peritoneum, transversalis fascia and muscles are closed again. The appendicitis operation is completed, except that the aponeurosis of the external oblique is still left open. Next the internal oblique and transversalis are sutured to Poupart's ligament, according to any of the approved methods, and finally the aponeurosis of the external oblique is sutured in the entire extent of its incision, so as to close both the appendicitis and the hernia operation. Lastly the skin is sutured. Torek claims that the combined operation has decided advantages over the performance of the two operations at separate sittings. It saves the patient one operation and it takes only very little longer than the hernia operation alone would require. Furthermore, there is greater firmness of the abdominal wall, as it is certainly better to have one incision in the aponeurosis than two.

28. **Appendicular Femoral Hernia.**—A study of 100 cases has shown Wood that appendicular hernia is more frequent than has been supposed. When occurring in conjunction with the cecum no special considerations may be involved, but when occupying the sac alone new problems of treatment are introduced. The appendix is more apt to be found in femoral than in inguinal hernias. It has occasionally been observed on the left side. A herniated appendix is apt to become adherent and inflamed, and as a matter of clinical experience this danger appears to be greater when it occupies the sac alone than when it is accompanied by other portions of the intestine. The diagnosis of appendicular hernia has not been made, as a rule, before operation. In all cases operated on it is desirable to remove the appendix unless the patient's general condition or safety contraindicates this course.

### Journal Missouri State Medical Association, St. Louis.

*May.*

36 Puberty—Its Benefits and Dangers. E. H. Miller, Liberty, Mo.
37 *Science of Medicine a Looted Profession. T. F. Lockwood, Butler, Mo.
38 *Ureter Catheterism as a Diagnostic and Therapeutic Measure. E. G. Mark, Kansas City.
39 Diagnosis of Conditions Calling for Nephrotomy and Nephrectomy. J. Block, Kansas City.
40 Technic of Amputation of the Breast. H. C. Crowell, Kansas City.
41 Diagnosis and Differential Diagnosis of Appendicitis. G. A. Beedle, Kansas City.
42 Remarks on Hookworm Disease (Uncinariasis). G. Homan, St. Louis.
43 Graft in Medicine. J. C. Moffit, St. Louis.
44 *Case of Subhyaloid Hemorrhage. J. M. Ball, St. Louis.
45 Address of the President of the Southeast Missouri Medical Society. T. W. Cotton, Van Buren, Mo.
46 Dr. Gregory as a Physician and Surgeon. D. C. Gore, St. Louis.
47 Dr. Gregory in His Civic Capacity. A. M. Dockery, St. Louis.
48 Dr. Gregory as a St. Louisian. W. G. Moore, St. Louis.
49 Dr. Gregory as a Medical Teacher. F. J. Lutz, St. Louis.

37. **Medicine a Looted Profession.**—To restrain the nefarious custom of manufacturing chemists of flooding the community with their myriads of remedies, Lockwood suggests that the medical profession request manufacturers to remove from all containers of manufactured products everything except the title label, asking them to refrain from having the name of the drug or of the firm blown in the bottle, not to use any peculiar or conspicuously shaped container, nothing but a plain packing bottle with a common label, leaving off formula, medical properties, usages and dose. They should also be asked not to publish such information as is now found in the literature distributed broadcast for the public to read. If manufacturers object to granting this request, Lockwood suggests that the proper plan to pursue would be to petition the legislature to take the matter in hand and force a final issue in behalf of human welfare and professional righteousness.

38. **Ureter Catheterism.**—Mark believes that ureter catheterism is an essential in the differential diagnosis of disease of the upper urinary tract. It is a *sine qua non* in the determination of the relative functionating activity of the two kidneys preliminary to renal operations. In the treatment of certain pathologic conditions of the kidney pelvis and ureter, ureter catheterism is invaluable, and in skilled hands and under proper precautions the use of the ureteral catheter is devoid of danger to the patient.

44. **Subhyaloid Hemorrhage.**—In the case reported by Ball the right eye presented, in the lower temporal quadrant of the fundus, a large hemorrhage, shaped much like the letter D turned 15 degrees to the right. Its upper external extremity was separated from the optic nerve head by a space of one papilla diameter. It was bounded below by a red crescent, which was separated from the main body of the clot by a grayish white line. Scattered along the side of the vessels above the clot were a number of small white round areas of retinal degeneration. Throughout the area of hemorrhage the retinal vessels were invisible.

### Medicine, Detroit, Mich.

*May.*

50 *New Apparatus for the Accurate Determination of Urea in Urine. G. H. Meeker, Philadelphia.
51 Some Intricacies in the Pathology and Diagnosis of Appendicitis. E. LaPlace, Philadelphia.
52 Principles of Treatment of Hypertrophy of the Prostate. C. G. Cumston, Boston.
53 Cystitis of Gonorrheal Origin. A. W. Myers, Milwaukee.
54 Relations of the Physician to Modern Surgery. J. B. Deaver, Philadelphia.

50. **Determination of Urea in Urine.**—Meeker claims for the method described, great accuracy and simplicity of performance. However, it requires an analytic balance and a special glass apparatus, which is described in detail, as is also the method itself.

### Archives of Pediatrics, New York.

*May.*

55 Multiple Abdominal Tumors. Due to Cystic Kidneys, Double Hydronephrosis and Great Dilatation of Ureters, Etc., in a Child Dying at Fourteen Months. L. E. Holt, New York.
56 Examinations of the Urine of Infants. H. D. Chapin, New York.
57 *Lipomatosis Universalis in an Infant Eleven Weeks Old. J. Sobel, New York.
58 *Hypertrophic Pyloric Stenosis in an Infant Ten Weeks Old, with Surgical Report of Gastroenterostomy. L. Fischer and A. Sturmdorf, New York.
59 Acute Circumscribed Edema. A. D. Smith and F. S. Mears New York.

57. **Lipomatosis Universalis in Eleven Weeks' Infant.**—Nothing unusual was noted in the case reported by Sobel until the

fifth week of life, when the mother noted a fullness of the cheeks. After this fat began to accumulate in the nape of the neck, the chest, suprapubic region and other parts. The baby became less sensitive to its surroundings and the mother thought it blind. The child nursed and slept well and there was no cough or convulsions. The head was held direct and did not fall backward. There were no evidences of craniotabes. The body length was 19½ inches, the chest measured 15½ inches and the abdomen at the umbilicus 16 inches; circumference of thighs at widest part, 9 inches; weight, 14 pounds. There were no evidences of rickets. In fact, the infant appeared to be normal except for the immense deposition of fat. Death occurred one week later, evidently from pulmonary edema.

58. **Hypertrophic Pyloric Stenosis.**—The case reported by Fischer and Sturmdorf is considered an illustration of a typical hypertrophic stenosis of the pylorus, in which the active symptoms began when the baby was 6 weeks old. All medicinal treatment proving useless, operation was advised. The stomach and intestines were irrigated thoroughly. Through an inch and a half incision, carried slightly to the right of the mid-epigastric line, the hypertrophied pylorus was drawn forward just sufficient to bring the duodenum and the pyloric end of the greater curvature of the stomach into easy apposition, somewhat in the manner of the first step in the Finney operation. The contiguous parts were anastomosed rapidly by a double-tier suture when the abdomen was closed. The operation lasted 22 minutes. The infant lived 30 hours, when it was suddenly seized with clonic and tonic convulsions and died.

### American Journal of the Medical Sciences, Philadelphia.

*May.*

60 *Clinical Significance of the Urinary Nitrogen. J. Ewing and C. G. L. Wolf, New York.
61 Diagnostic Significance of Persistent High Arterial Pressure. T. C. Janeway, New York.
62 Preliminary Study of Visceral Arteriosclerosis. H. Brooks, New York.
63 Studies in Tropical Medicine. F. C. Wellman, Benguella, Portuguese, West Africa.
64 *Case of Fetal Ichthyosis. B. W. Moore and L. M. Warfield, St. Louis.
65 Anatomy of the Parathyroid Glands. J. Rogers and J. S. Ferguson, New York.
66 Four Cases of Double Hemiplegia (Syphilitic Encephalitis, Cerebrospinal Syphilis), with Autopsy. J. H. W. Rhein, Philadelphia.
67 *Autosuggestion in Hysteria Apropos of a Case, with Remarks on So-called Hysterical Insanities. A. Gordon, Philadelphia.
68 *Observations on the Form of the Red Blood Corpuscle of Man. H. E. Radasch, Philadelphia.
69 Developmental Alexia (Congenital Word Blindness). E. Jackson, Denver.
70 *Clinical Observations on Ulcer of the Stomach. J. H. Schroeder, Cincinnati.
71 *Acute Appendicitis the Result of a Foreign Body. F. D. Patterson, Philadelphia.
72 Surgical Treatment of Hepatic Ascites. A. O'Malley, Philadelphia.
73 Case of Paratyphoid Fever. J. M. Sawn, Philadelphia.

60. **Clinical Significance of Urinary Nitrogen.**—As the result of careful observation Ewing and Wolf believe that changes in the partition of the urinary nitrogen may be taken as an index of metabolic disturbances escaping other methods of detection, but they are by no means certain how far the present knowledge of this subject will render this type of urinary analysis practically available to the clinician.

64. **Fetal Ichthyosis.**—This article appeared in the *Journal* of the Missouri State Medical Association, March, 1906, and was abstracted in THE JOURNAL, April 14, 1906, page 1130.

67. **Autosuggestion in Hysteria.**—In the case reported by Gordon there were noted numerous psychic phenomena of autosuggestion, which developed under the influence mostly of reading, and simulated to a remarkable degree some forms of psychoses of which the patient was totally unaware and which developed outside of personal consciousness. There was also an association of hysteria and epilepsy.

68. **Form of Red-Blood Corpuscle.**—In examining series of slides representing tissues derived from autopsies on fetuses, Radasch noted the constant presence and great numbers of red cells that did not possess the classic biconcave shape. A review of the literature shows that the earliest accounts of the red cells ascribe to them a bell shape. The tissues studied were derived from about twelve autopsies performed on fetuses from five months to term, and on one infant 11 days old. Radasch concludes that the majority, if not all, of the circulating cells are bell-shaped and not biconcave. Their presence in the adult body, as well as that of the fetus, is shown by a study of the placenta. Their presence in the fetus and infant seems undoubted, as shown by their abundance and uniformity in shape and size in the fixed tissues. On contact with the air the bell shape is changed to the biconcave, the result of collapse. This is shown by the fixation of blood that has not been exposed to the air, on the one hand, and blood that has been so exposed, on the other.

70. **Ulcer of Stomach.**—Schroeder claims that surgical treatment of gastric ulcer is indicated only when there is organic obstruction, either cicatricial or by adhesions, or when there are frequently recurring hemorrhages. The operations performed may be gastroenterostomy, excision of the ulcer or plastic operations on the pylorus. Schroeder reports a case in which there was marked gastrosuccorrhea with hyperchlorhydria, pylorospasm and gastrectasia. Under carefully prescribed medical treatment the patient made a complete recovery.

71. **Appendicitis Result of Foreign Body.**—Patterson presents a very thorough review of the literature on this subject and reports one case in which the appendix contained a small piece of eggshell.

### Ophthalmology, Milwaukee, Wis.

*April.*

74 Relation of Convergence to Accommodation. H. F. Hansell, Philadelphia.
75 *Atypical Exophthalmic Goiter with Endothelioma of the Pituitary and Thyroid Bodies. Death from General Sepsis. Autopsy. H. V. Würdemann and W. Becker, Milwaukee.
76 Case of Cystic Degeneration of the Pituitary Body, with Pressure on the Optic Chiasm. W. H. Peck, Chicago.
77 *Traumatic Irido-Cyclitis, with Peculiar Conjunctival Disease, Recovery Under Injections of Tuberculin. S. D. Risley, Philadelphia.
78 Second Case of Keratitis Disciformis; Case of Corneal Erosion. W. C. Posey, Philadelphia.
79 Case of Filamentous Keratitis. W. Zentmayer and H. G. Goldberg, Philadelphia.
80 *Dangers of Common Drugs as Seen by the Ophthalmologist. E. E. Blaauw, Buffalo, N. Y.

75. **Atypical Exophthalmic Goiter.**—The patient whose case is reported by Würdemann and Becker presented great exophthalmos, attended by a loss of vision and ulceration of the corneæ, purulent discharge from both nares. The thyroid was slightly enlarged. The heart-beat was rapid, but physical examination did not show any apparent lesion. Death resulted from meningitis. At the autopsy there was found an endothelial degeneration of the pituitary body. No evidences of acromegaly were found.

77. **Traumatic Iridocyclitis.**—In the case reported by Risley four injections of two minims each of tuberculin resulted in a complete relief of the trouble.

80. **Dangers of Common Drugs.**—Blaauw reports from the literature cases of poisoning with various well-known drugs used in eye work, such as common salt, iodoform, β-naphthol and naphthalin, and the effects on the eye of some common alteratives, vermifuges, antipyretics and antirheumatics.

### Illinois Medical Journal, Springfield.

*April.*

81 Some Footprints of a Prehistoric Race. W. M. Roberts, Norris.
82 Gross Abnormalities of the Appendix Vermiformis. A. P. Heineck, Chicago.
83 Plea for the Open Treatment of Fractures. G. M. Pealrs, Joliet.
84 Natural Temporary or Acquired and Artificial Immunity. H. D. Schiller, Chicago.

*May.*

85 Aphasia. H. M. Sedgwick, Peoria.
86 Neurasthenia. J. Grinker, Chicago.
87 Parametritis (Virchow) Versus Perimetritis—Behavior, Diagnosis and Treatment. A. B. Keyes, Chicago.
88 *Scrofula. H. G. Anthony, Chicago.

88. See abstract in THE JOURNAL, May 27, 1905, page 1704.

### The American Journal of Urology, New York.

*May.*

89 Diagnosis and Treatment of Kidney Stone. A. D. Bevan and J. F. Smith, Chicago.

90 Gonorrheal Infection of the Urethral Follicles and Diverticula. A. Couderc, Paris.
91 *Epididymotomy for Blennorrhagic Epididymitis. L. Bazet, San Francisco.
92 Urethroscopy. E. G. Mark, Kansas City, Mo.
93 Effect of Uterine Retroversion of the Urinary Bladder. G. S. Whiteside, Portland.

91. *Id.*—April 28, 1906, page 1319.

### Journal of the Michigan State Medical Society, Detroit.
*May.*

94 Milk Bacteria. C. E. Marshall, Lansing.
95 Intestinal Obstruction and Paralysis of the Bowels Following Laparotomy. F. J. W. Maguire, Detroit.
96 Value of Drugs Used to Assist Labor. J. E. Davis, Detroit.
97 Case of Sub-acute Pancreatitis, Cholelithiasis and Cholecystitis. C. F. Tenney, Ann Arbor.
98 Enforcement of the Medical Practice Law in Calhoun County. H. A. Powers, Battle Creek.

### Louisville Monthly Journal of Medicine and Surgery.
*May.*

99 Ectopic Gestation. J. G. Sherrill, Louisville.
100 Not Which Anesthetic, But What Form of Anesthesia. A. Schachner, Louisville.
101 Symposium on Puerperal Eclampsia. E. Speidel, H. B. Ritter and P. F. Barbour, Louisville.

### Cleveland Medical Journal.
*May.*

102 A Day in Salerno. C. J. Aldrich, Cleveland.
103 Foreign Bodies in the Cornea and Conjunctiva. A. R. Baker, Cleveland.

### The Kansas City Medical Index-Lancet.
*May.*

104 Relation of Gonorrhea to Pelvic Disease. H. C. Crowell, Kansas City.
105 Epilepsy. H. C. Hays, Kansas City.
106 Gastric Ulcer. N. P. Wood, Independence, Mo.
107 Causes and Treatment of Uremia. E. L. Chambliss, Kansas City.
108 The Paquelin Cautery for Epithelioma. E. Lanphear, St. Louis.

### American Practitioner and News, Louisville, Ky.
*May.*

109 Puerperal Infection. A. S. Priddy.
110 Elements of Prognosis in Diseases of the Aortic and Mitral Valves. J. A. Flexner, Louisville.
111 The Man with a Remedy. N. T. Dulaney, Jr., Bristol, Tenn.
112 Why School Children Should Be Examined. T. A. Frazer, Marion.

### Buffalo Medical Journal.
*May.*

113 Treatment of Chronic Catarrhal Gastritis. A. A. Jones, Buffalo.
114 Symptoms and Signs of Gallstone Disease. F. W. McGuire, Buffalo.
115 Relation of the Function of Vision to Health. A. C. Snell, Rochester.
116 Few Suggestions on Prescription Writing. L. A. Thomas, Buffalo.

### Vermont Medical Monthly, Burlington.
*May 15.*

117 Sciatica. M. B. Hodskins, Palmer, Mass.
118 Treatment of Status Epilepticus. A. Morton, St. Albans, Vt.

### Indiana Medical Journal, Indianapolis.
*May.*

119 Consideration of Angina Pectoris. A. C. Kimberlin, Indianapolis.
120 Dr. Holmes as Poet and Physician. D. W. Layman, Indianapolis.
121 Music and Poetry, Their Relation to the Medical Life. A. W. Brayton, Indianapolis.
122 Femoral Hernia in an Aged Female, with Strangulation Caused by Subperitoneal Lipoma. D. M. Green, Muncie.
123 A Peculiar Gunshot Wound of the Neck, with Autopsy. J. L. Marsh, Brownsburg, Ind.

### The Ohio State Medical Journal, Columbus.
*May 15.*

124 Dangers of the So-called Radical Mastoid Operation. F. Allport, Chicago.
125 Duty of the General Practitioner in Cases of Mental Diseases. B. F. Beebe, Cincinnati.
126 Points on Colles' Fracture. S. P. Wise, Millersburg.
127 Two Cases of Meckel's Diverticulum. C. H. Humphreys, Dayton.
128 Puerperal Mastitis. C. E. Norris, Akron.
129 Rupture of the Uterus. J. M. Watt, Toronto.
130 An Episode in the Lodgment of Foreign Bodies in the Stomach and Esophagus. W. S. Phillips, Belle Center, Ohio.

### American Journal of Surgery, New York.
*May.*

131 *Conservatism in Post-operative Treatment. S. C. Beede, David City, Neb.
132 Plaster-of-Paris and How to Use It. (Continued). M. W. Ware, New York.
133 *Some Observations on Nephropexy. D. W. Basham, Wichita, Kan.
134 Renal Traumatism. C. G. Cumston, Boston.
135 Hypertrophy of the Pharyngeal and Faucial Tonsils. F. C. Raynor, Brooklyn, N. Y.
136 Case of Gangrene of the Entire Colon. E. Lanphear, St. Louis.
137 Close-Fitting Hip Splint, Intended Especially for Fracture. J. P. Hetherington, Logansport, Ind.
138 Case of Hip Disease Simulating Malignant Disease. J. Ridlon, Chicago.

131. *Id.*—Jan. 20, 1906, page 223.

133. *Id.*—Jan. 13, 1906, page 145.

### Oklahoma Medical News-Journal, Oklahoma City.
*May.*

139 Tuberculous Joints. F. H. Clark, El Reno.
140 Removal of Small Foreign Bodies from the Cornea, Conjunctiva, Etc. F. Allport, Chicago.
141 Abortion, Its Causes and Treatment. W. A. Fullington, Oklahoma City.
142 Abuse of Antiseptics. C. L. Zugg, Argentine, Kan.

### Columbus Medical Journal.
*May.*

143 Trigeminal Neuralgia. B. M. Ricketts, Cincinnati.
144 Claimant for Pension. P. J. Kline, Portsmouth.
145 Criminal Abortion Viewed from a Moral Standpoint. C. P. King, Newark.
146 Organization of Medical Teachers. W. A. Dickey, Toledo.

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## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal.
*May 5.*

1 *Surgical Complications of Tabes Dorsalis. A. A. Bowlby.
2 *Bacteriology of a Common Cold. C. H. Benham.
3 Diffusion of Red Blood Corpuscles Through Solid Nutrient Agar. H. C. Ross.
4 *Personal Identification by Means of Finger-Print Impressions. V. Bateson.
5 Serumtherapy by the Mouth. D. M. Paton.
6 Cervical Ribs and Their Effects on the Great Vessels of the Neck. W. Broadbent.
7 *Case of One Cerebral Hemisphere Supplying Both Sides of the Body. G. H. Grills.
8 What Influence Have Use of X-Rays Had On Treatment of Fractures and Dislocations. J. L. Thomas.

1. **Surgical Complications of Tabes.**—Among the complications mentioned by Bowlby as having occurred in the cases reported are Charcot's disease, spontaneous fractures and perforating ulcers of the foot.

2. **Bacteriology of a Common Cold.**—Of twenty-seven cases examined bacteriologically by Benham, diphtheroid organisms were found to be present in 20 cases out of 21—that is, 95 per cent.—and were isolated in 5 of the cases, also in one of the sanatorium cases. Cocci negative to Gram's stain were seen in 10 out of 21 cases—that is, 48 per cent.—and isolated in 2 cases. Other cocci positive to Gram's stain were seen in 14 cases—67 per cent. Some of these were undoubtedly pneumococci. They were not present in large numbers in any of the cases, nor was it found possible to isolate them. Pfeiffer's bacillus, though carefully looked for, could be found in only 2 cases in small numbers, and was not obtained in pure culture. Other organisms were found in small numbers, much as in normal throats and noses.

4. **Identification by Finger-print Impressions.**—Bateson says that the value of finger-print impressions as a means of identification is not as yet appreciated by insurance companies. There is no doubt that the impression of the finger of a dead person taken before decomposition sets in would fix its identity in a most convincing way if at any previous time the deceased had been required to give an impression of the same finger. Its value as a means of authenticating testamental dispositions can not be overestimated. He says that the simplicity of the process of recording these finger-prints is one of its chief attractions. The apparatus consists of (1) specially prepared printer's ink; (2) a small roller for spreading the ink; (3) a slab of glass, polished copper or porcelain, on which the ink must be rolled out into as thin a film as possible; (4) the paper or card on which the prints are taken, this not to be too highly glazed; (5) a solution of washing soda to remove the ink from the fingers. The ink, roller and slab must be kept scrupulously clean and free from dust, hairs or grit. To take a plain impression, press the finger lightly on the inked slab and then on the receiving surface, and imprint the

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design as from a stamp, which in this case happens to be a whorl.

Another more useful form is the rolled impression, which has the advantage of showing a much greater surface and a larger number of points for comparison. To take a rolled impression, the finger is laid on one side and rolled over to the other, so that the plane of the nail is at right angles to the plane of the slab at the commencement and termination of the inking, and if the finger lay on the ulnar side to begin, the movement ended when it lay on the radial edge. The same rotation of the inked finger imprints the design, which by its greater breadth gives the Brobdingnagian impression.

5. **Serum Therapy by the Mouth.**—For eight years Paton has been using serums by the mouth, both normal serums and the product of immunity, with remarkable results. He says that the theory which best explains their action is that of tissue resistance. That is, that along with antitoxic and antibacterial resistance to infection, or alone when those other elements are absent, there is produced an increased resistance in the tissues to the pathogenic action on them of the organisms present; that this produces what may be called a sterile soil without harmfully affecting the organisms themselves. The organisms themselves having no suitable soil for their action, are readily eliminated.

7. **Case of One Cerebral Hemisphere.**—The patient whose case is reported by Grills was certified as an imbecile when 19 years of age. She was said to be an epileptic, but was not known to have had a fit for twenty years. She was able to mix with the other patients and to walk about the grounds. She could use both arm and leg of the right side, but they were slightly contracted and stiff; she did not make such skilled movements with them as with the left; they were equally well nourished. Sensibility was normal, so far as one could make out, but she had a great dislike of anything cold. Knee-jerks and plantar reflexes showed no appreciable difference on the two sides and were apparently normal. She was not ataxic in gait. Mentally she was imbecile, slow and stupid, but understood spoken language, and sometimes spoke even of her old associates before admission, recalling them by their correct names. She died at the age of 42. About a week before her death she began to walk about in a drunken fashion, rapidly became quite helpless, and died, the cause of her death being certified as congenital malformation of the brain.

At the postmortem all the organs were healthy and normal, with the exception of the central nervous system, which presented the following features: The left hemisphere of the cerebrum was quite symmetrical and was as well shaped as the right hemisphere, except that the gyri were indicated by linear marks and not by deep sulchi. On tapping any part of the hemisphere the percussion wave could be felt, showing that the hemisphere was merely a sac filled with fluid. On an average the membrane was less than one-fourth inch thick. Microscopically it showed no typical motor cells. The cells in the membranous covering were almost all of the globose character, and had few and often no processes which could be demonstrated by the freezing method. The cells in the right hemisphere, on the other hand, were very rich in processes, which could be traced for great distances even among arborizations, and this especially from the large pyramidal cells, which were very prominent. The contents of the sac was a clear and transparent, slightly alkaline fluid. The temporo-sphenoidal lobe on the left side and the region of the island of Reil were not membranous and showed very thin layers of gray and white matter. The corpus callosum was represented by an extremely delicate, white membrane, which tore on the slightest separation of the hemisphere. The right side of the cerebellum was atrophied and weighed 40 grams, as compared with 63, the weight of the left. The olivary body and anterior pyramid of the left side were about one-third the size of the same bodies of the right side. The basal ganglia were not apparently atrophied, except the left caudate nucleus. The left internal capsule was represented by a very thin white band. The right lateral ventricle was about half as large again as it should have been.

The spinal cord on transverse section showed no appreciable difference in size or shape between the right and left halves, and both anterior and posterior cornua were identical in size and shape on the opposite sides, and showed typical ganglionic cells, which were about equal in number and size on the opposite sides. There was no degeneration of fiber in the spinal cord, and the only point in which the cord seemed to differ from the normal was that narrow strands of gray matter swept back through the white matter from the anterior cornu of one side across the anterior commissure and into the base of the opposite cornu.

## The Lancet, London.

*May 5.*

9 Bearing of Metabolism Experiments on the Treatment of Some Diseases. E. L. Spriggs.
10 *Pathogeny of Diabetes. F. W. Pavy.
11 Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. G. Lamo and W. K. Hunter.
12 *Twenty-two Fatalities Which Have Occurred Under Ethyl Chlorid. T. D. Luke.
13 Primary Caries of the Mastoid Process as a Cause of Mastoid Abscess in Young Children. L. T. Gamgee.
14 Obscure Cerebral Manifestations of Tuberculosis. J. Fortune.
15 Successful Case of Epiplopexy for Cirrhosis of the Liver with Ascites. T. K. Monro and A. N. McGregor.

10. **Pathogeny of Diabetes.**—Pavy thinks that it may be generally admitted that the nervous system is involved in the pathogeny of diabetes and that this disease is essentially a neurosis affecting a particular part of the vasomotor system. His views are set forth at great length and for these the reader is referred to the original paper.

12. **Ethyl Chlorid Anesthesia.**—The fatalities referred to in the title of this paper did not occur in Luke's experience, but in that of others. He has administered ethyl chlorid to all classes of patients on considerably over 2,000 occasions and has not had a single fatality, in fact nothing worse than two cases of temporary respiratory arrest with considerable cyanosis and very widely dilated pupils.

## The Dublin Journal of Medical Science.

*April.*

16 Abdominal Tuberculosis in Its Clinical Aspects. J. Little.
17 Tuberculosis of the Female Genital Organs. W. Smyly.
18 Points in the Pathology of Abdominal Tuberculosis. E. J. McWeeney.
19 Surgical Aspect of Abdominal Tuberculosis. T. E. Gordon.
20 Opsonic Index in Relation to Tuberculous Peritonitis. A. H. White.

## The Australasian Medical Gazette, Sydney.

*March 20.*

21 Hospital Abuse. T. A. Wilson.
22 Typhoid Fever in New South Wales, 1898-1904. (To be continued). R. J. Millard.
23 Cause of Pseudo-Myopia. J. L. Gibson.
24 Case of Acute Hemorrhagic Pancreatitis. A. E. Wigg.
25 Hystero-Neuroses; Their Cause and Treatment. W. W. Ewbank.

## Presse Médicale, Paris.

26 (XIV, Nos. 26-27.) Cholémie physiologique. A. Gilbert and M. Herscher.
27 *Les fausses gastropathies. Diagnostique et traitement. J. Déjérine and E. Gauckler.
28 Rôle of "Thymilic Acid" in Uric Acid Pathology.—De l'acide thymilique. A. Breton.
29 (No. 28.) *New Method of Shortening Round Ligaments.—Ligamentopexie rétro-utérine et sous-tubo-ovarienne. Dartigues and Caraven.
30 Le souffle systolique de l'insuffisance aortique pure. A. Calabrese.
31 Le régime diététique dans l'armée japonaise et les principales armées européennes. H. Labbe.
32 (Nos. 29-30.) *Le processus histologique de l'athérome et de l'artériosclérose. Les poisons des artères. M. Loeper.
33 La sporotrichose (abcès sous-cutanés multiples). L. Dor. One case.
34 Méthode objective de mesure de la pression artérielle avec l'emploi, comme témoin, du sphygmographe de Dudgeon modifié. Parlset.

27. **Diagnosis and Treatment of "False Gastropathies."**—In THE JOURNAL, May 12, page 1482, the first communication by Déjérine on this subject was reviewed. He here summarizes his method of treating these purely imaginary stomach affections. The diagnosis must be based on the history of the case without objective examination. Any attempt at the latter aggravates the symptoms, as a rule, and fixes the patient in his notion of stomach trouble. The functional disturbance follows some emotion, worry or shock, and is forgotten when life becomes serene once more, but business or domestic

troubles cause its reappearance. The patients apply to one physician after the other; one of his patients had consulted fifty. They thus learn the symptomatology of all kinds of stomach diseases, and experience them in turn or superposed, this blending of the classic syndromes of various gastropathies being one of the important diagnostic signs. The avoidance of certain foods supposed to be harmful leads to emaciation in some cases, and if continued through years, as frequently occurs, the appearance of the patients suggests malignant disease. The long duration of the trouble is evidence against this assumption, coupled with the absence of specific signs of a neoplasm. Fully 90 per cent. of the cases of gastric affections observed at the Salpêtrière come under the heading of "false gastropathies." This diagnosis is confirmed by the complete recovery under appropriate treatment, which consists in strict avoidance of objective examination of the stomach, functional or somatic; strict isolation, bed screened if in the hospital, with exclusion of visitors, and strict milk diet—more than five quarts of milk a day, sipped in frequent small amounts. In short, these patients recover and gain in weight as if by magic under purely psychopathic treatment: "milk isolation," psychotherapy and re-education of the stomach. These gastropathies of psychic origin must not be confounded with true stomach affections occurring in neurasthenics, which require quite different treatment.

29. **Retrouterine Shortening of the Round Ligaments.**—The methods of taking up a loop in the round ligaments, hitherto presented, fasten the loops together in front of the uterus. This technic has several disadvantages, Dartigues states, which can be avoided if the shortening is done at the back of the uterus. The laparotomy and the entire technic, including the suturing of the abdominal incision, can be completed in ten minutes. The two loops are merely tied together, without the necessity for suturing. Nothing is cut nor punctured, no stitches are taken, and consequently not a drop of blood is lost. The uterus is raised and held in normal position without abnormal fixation anywhere. The technic can be readily understood from the illustrations that accompany the description in the article. It has been used on 2 patients at Pozzi's clinic, answering all anticipations.

32. **Etiology of Atheroma and of Arteriosclerosis.** — Loeper defines the lesions of atheroma and arteriosclerosis as sclero-atheromatous endarteritis and calcifying mesarteritis in the arteries and of pure sclerosis in the arterioles. All are the result of a dual process of sclerosis and calcification, alone or in combination, the result of slow, gradual, prolonged action of toxic irritation on the tissues of the artery. Among these arterial poisons, suprarenal extracts, lead, tobacco, ergot and theocin have a decidedly elective action on the arterial system, in which they induce calcification. The aorta suffers most, and rabbits and cows are affected more than dogs, possibly owing to their vegetable diet. The calcification is due more to a nutritional disturbance than to inflammation or necrosis.

### Revue de Médecine, Paris.

*Last indexed, XLV, page 1450.*

35 (XXV. No. 6.) Etude anatomo-pathologique du sympathique abdominal dans les infections. Lalgnel-Lavastine.
36 De l'excitabilité des muscles. V. Kiplani.
37 Certains symptomes de la maladie de Parkinson. G. Catola. (Florence).
38 (No. 7.) *Les rémissions prolongées de la méningite tuberculeuse chez l'enfant. G. Carrière and Lhote (Lille).
39 Séro-réaction de la bacillo-tuberculose. G. Sabareanu and M. Salomon.
40 *La diphthérie dans les collectivités. Son étiologie.—Sa prophylaxie. Roussel and Job. (Concluded.)
41 (No. 8.) *L'alimentation dans la tuberculose expérimentale. Influence nocive de la viande cuite (Injurious influence of cooked meat). C. Richet.
42 2 cas de cirrhose atrophique à marche algu avec ascite chyliforme. A. A. Lambrior.
43 (No. 9.) *Anémie pernicieuse. Formes curables. Formes secondaires. Forme ictérique. A. Chauffard and L. Laederich.
44 Note sur les rêves épileptiques (dreams). C. Féré.
45 *Dystrophie de la fonction d'élimination chlorurée urinaire chez les obèses. R. Labbé and L. Furet.
46 Perforations intestinales de la rechute et de la convalescence de la fièvre typhoïde et résultats opératoires (perforations during relapse, etc.). E. Devic and J. Froment.
47 (No. 10.) Le syndrome myoclonique. H. Huchard and N. Fiessinger.
48 Les conditions économiques dans l'étiologie sociale de la tuberculose. R. Romme.
49 Position du coeur, dans l'exsudat d'origine inflammatoire de la séreuse du coeur. Applications à la paracentèse du péricarde (position of heart in pericarditis). B. Schaposchnikoff.
50 Paralysie des mouvements associées de latéralité des yeux dans les affections du cervelet, des tubercules quadrijumeaux et de la protubérance (side movements of eyes in brain affections). A. Gaussel (Montpellier).

38. **Long Remissions in Tuberculous Meningitis.**—This article is based on 3 cases personally observed and 7 from the experience of others. Study of these cases shows that tuberculous meningitis is not necessarily soon fatal, but may allow remissions of varying length. These remissions are very rarely recognized, but several causes are responsible for this. During the remission a few signs persist, showing that the tuberculous affection is only dormant and that a relapse is to be feared. The last relapse has generally an abrupt onset and rapidly fatal course. The pathologic anatomy explains the remissions. The lesion, the initial cause of all the trouble, is localized and undergoes fibrous transformation, but remains, nevertheless, a permanent menace of future irritation and inflammation. Energetic treatment should be instituted during the remission: hygienic measures, tonics (arsenic, glycophosphates and lecithin), avoidance of physical overexertion and of much brain work, with administration of a little calomel now and then for constipation and to increase the secretions, are indicated. Potassium iodid daily in small doses promotes absorption and favors elimination of bacillary toxins. Creosote by the rectum has given good results in his experience. In one of the cases reviewed the remission lasted for five years and a half. Some of the patients seem to be clinically cured at present.

40. **Prophylaxis of Diphtheria in Barracks, Etc.**—Roussel and Job conclude their long study of this subject with the suggestions that prophylaxis should include isolation of every patient with an affection in which the Loeffler bacillus is recognized as the cause. Isolation should be continued until negative results are obtained in two bacteriologic examinations with an interval of a week at least. If the positive findings persist after 40 days of convalescence the patient can be dismissed, but the health of persons in his environment must be supervised. They advise, further, collective isolation of contaminated groups, with daily medical surveillance, for 15 days after the last pathologic manifestation due to the diphtheria bacillus. They also advise preventive injections of diphtheria antitoxin for healthy persons who have been exposed, when the manifestations of the disease are particularly serious, and the number of persons exposed is not too large, and disinfection of all the objects and rooms that the diphtheria patient might have infected in a radius of 39 inches around him. These measures may be regarded as ample under the above condition, namely, daily medical surveillance. The convalescents and the healthy suspects should use a local disinfectant for the throat every day, possibly promoting its action with ammonium bicarbonate to dissolve the mucus. An extensive bibliography is appended.

41. **Injurious Influence of Cooked Meat in Experimental Tuberculosis.**—Richet here gives the details of his experiments with tuberculous dogs fed with cooked meat. He found it the most harmful of all methods of feeding, while raw meat, as the sole food, proved incontestably the best.

43. **Recovery from Pernicious Anemia.**—Chauffard and Laederich report 2 cases of pernicious anemia which, instead of proving progressive, showed retrogression, with the complete recovery of the patients. One was a typical "plastic" anemia, that is, with the marrow elements of the blood assuming abnormal forms, while the other case was of the "aplastic" type, that is, without any evidence of an organic reaction. There were no nucleated reds and scarcely 3 myelocytes to 100 leucocytes, and yet in seven weeks the number of reds increased from 560,000 to 3,264,000. The blood-forming organs were aroused to action by the treatment, which included organotherapy and subcutaneous injections of liquor potassii arsenitis. The doses were progressive, from 6 to 20 drops a day, with intermissions of a week every second or third week. Calves' red marrow was given in amounts from 40 to 100 gm., chopped or mashed in warm bouillon. It is important to know that the marrow is really red marrow, even if a cyto-

logic test is necessary. Iron and inhalation of oxygen may be useful as adjuvants, but can not be depended on exclusively. Several other cases of cures of pernicious anemia under marrow therapy have recently been recorded.

45. **Treatment of Obesity.**—Labbé and Furet outline the rational treatment of obesity as abstention from salt and free ingestion of fluids, with regulation of the diet.

### Semaine Médicale, Paris.

51 (XXVI, No. 17.) *Diagnostic des ruptures utérines. R. de Bovis.

51. **Rupture of Uterus.**—De Bovis reviews his experience with a number of cases of rupture of the uterus and discusses the diagnosis. In the first place, he says, whenever there is dystocia, no matter how slight, the possibility of rupture should be borne in mind. It must be sought for, as whenever it causes symptoms that attract attention the trouble is already irreparable. It is especially liable to occur with face, shoulder and breech presentations, in women who have borne many children, in twin pregnancies, and in case of contracted pelvis. In one-half or one-third of all cases under his observation the trouble has been the result of hydrocephalus or encephalocele. Whenever the obstetrician has had occasion to interfere in the delivery, he should seize the opportunity to verify the integrity of the uterus. The most important sign of a rupture is the sudden exclamation of the patient during the course of labor, a cry of sharp pain, and sometimes an exclamation that "something has broken loose inside." This is followed by a deceptive calm—the labor pains generally stop at once when the uterus ruptures. The exclamation of pain may not have attracted the attention of the attendants, but the arrest of the labor pains is generally noticed and is a valuable aid in differentiation. Hemorrhage generally does not appear with the onset of labor, but is noted after twenty-four or forty-eight hours or longer. It may occur and be very severe as the child is delivered, and the compression on the walls and arteries is thus suddenly removed. Another important sign is the painfulness on pressure of the lower segment of the uterus, in the iliac fossæ toward the superior strait or a little lower, contact of the parts other than the skin causing extreme pain. He remarks that if he had trusted to this sign and operated at once he might have saved one of his patients who succumbed. He hesitated, not liking to open the abdomen on that one sign alone. He believes that many instances of supposed puerperal fever are in reality cases of unsuspected and infected rupture. This may be surmised when hemorrhage occurs secondarily from suppuration of the wound of the rupture and erosion of the arteries, such hemorrhages appearing after the third day or later, sudden, brief, recurring and sometimes occurring at night. Accumulation of blood in the pelvis may cause severe pain from irritation of the peritoneum or compression of nerves. As it is impossible to say what will become later of a once ruptured uterus, he advocates prompt hysterectomy, before infection has had a chance to develop.

### Archiv f. Verdauungs-Krankheiten, Boas', Berlin.

*Last indexed, page 1146.*

52 (XII, No. 2.) *Experimental Study of Physiologic Action of Administration of Hydrochloric Acid on the Gastric Secretions.—Exp. Untersuchungen ueber die physiolog. Einwirkung der Salzsäuredarreichung auf die Magensekretion. F. Heinsheimer.

53 *Ueber Gastritis phlegmonosa. K. Schnarrwyler.

54 *Attempts to Introduce a Sound into the Colon.—Ueber Sondierungsversuche des Colons. E. Lilienthal.

55 *Fall von Ulcus ventriculi rotundum mit Cholelithiasis, Cholecystitis, Pericholecystitis und konsekutiver motorischer Insuffizienz II. Grades des Magens; Operation; Heilung. G. Haas.

52. **Physiologic Action of Administration of Hydrochloric Acid on Gastric Secretion.**—Heinsheimer's experiments were made on dogs with a Pawlow fistula and blind stomach pouch. When the hydrochloric acid was given before feeding, it had no more influence on the secretion than simple water. When given at the beginning of secretory activity the latter persisted longer than when water alone had been given.

53. **Phlegmonous Gastritis.**—On the basis of 3 cases personally observed and 80 described in the literature, the history and clinical picture of phlegmonous gastritis are outlined and treatment discussed. Recovery is known in only 4 instances. The affection has a course of from one to twenty days, as a rule, although Glax has reported a case in which the patient recovered by the end of four weeks. Boas recommends in treatment ice externally and internally, opiates in the form of suppositories, morphin, quinin and stimulants, with operative treatment in case of an abscess. In Lengemann's case, the patient, a young woman, was operated on for supposed perforation of an ulcer in the stomach. The findings were those of a localized peritonitis and the anterior wall of the stomach was found transformed into a thickened, rigid plate, characteristic of the phlegmonous affection. The region was washed, tamponed and dressed with hot wet compresses, and the patient soon recovered. Lengemann advocates early laparotomy and tamponing in all such cases, as this is the only means of preventing peritonitis and thus allowing recovery. In 44 of the cases on record there were alcoholic antecedents in 8 cases: in 5 the trouble was referred to errors in diet; in 2 to getting chilled; in 6 to intoxication; to trauma in 2; puerperal fever in 2; pyemia in 2; to swallowing pus from an ulcer in 1; to cancer in 6; to articular rheumatism or typhoid 2 and 1; septic esophagitis in 1; round ulcer of the stomach in 4; and secondary to leg ulcer, to gastrostomy, and to bronchiectasia in 1 each.

About two-thirds of the patients were males, the youngest 11 and the oldest 76. The symptoms are not characteristic and are generally masked by the co-existing peritonitis. The affection was very seldom diagnosed during life. In 3 cases on record no stomach symptoms had been noted and the findings were an autopsy surprise. In 3 cases pus was found in the vomitus and these were the cases that terminated in recovery. The trouble is a diffuse acute suppurative inflammation of the stomach, principally located in the submucous coat, a suppurative infiltration spreading thence to involve the intermuscular connective tissue, and possibly also the serosa, while the mucosa may be swollen and permeated with pus cells. The rarity of pus in the vomitus is explained by Leube as due to the fact that the pus evacuated through the mucosa is digested in the stomach and thus is not macroscopically visible. Vomiting is generally excessive at first but subsides later, to recur again as peritonitis becomes installed. Fever is generally present, and of a pyemic type. In 3 instances there was thrombosis of the liver veins and in some others complicating suppurative pleurisy and pericarditis. The 3 cases personally observed are described in detail with the postmortem findings illustrated. The first description dates from 1656.

54. **Attempts to Introduce a Sound into the Colon.**—Lilienthal gives some radiograms which confirm the assumption that it is almost impossible to succeed in pushing a sound into the colon. When this can be done, it is owing to some individual peculiarity which allows the rectum, sigmoid flexure and descending colon to lie in a straight line.

55. **Round Ulcer of the Stomach Plus Gallstone Affection.**—The patient was a man of 36, who presented symptoms of round ulcer of the stomach, cholelithiasis and cholecystitis, with motor insufficiency. The latter was not due to the ulcer, but was the result of adhesion of the liver to the pylorus, the consequences of pericholecystitis, with resulting stenosis of the pylorus. The patient refused operative treatment at first, but finally consented after three years. He was restored to health by a gastroenterostomy.

### Berliner klinische Wochenschrift.

56 (XLIII, No. 8.) *Experiences with the extended Freund Operation.—Erfahrungen mit der erweiterten Freund'schen Operation. J. Veit.

57 Das Antituberkuloseserum Marmorek. A. Hoffa.

58 *Weitere Ergebnisse meiner ösophagoskopischen Arbeiten. G. Glücksmann.

59 *Erfahrungen mit Radium-Behandlung. A. Blaschko.

60 Behavior of Uric Acid and Urea in Gout.—Ueber das Verhalten der Harnsäure und des Harnstoffs bei der Gicht Falkenstein.

61 Ueber Herpes laryngis et pharyngis (nebst Beiträgen zur Frage der Schleimhautsyrtheme. E. Glas. (Concluded).

62 Die Bekämpfung des Malaria-Fiebers. U. Friedemann.

63 (No. 9.) *Ueber Rachitis als Volkskrankheit. D. v. Hansemann.

64 Zur Frage der Zusammensetzung des Reststickstoffs im Blute und in serösen Flüssigkeiten (residual nitrogen in blood, etc.). C. Neuberg and H. Strauss.

65 *Zur Heilung der Larynxtuberkulose. A. Alexander.
66 *Ueber Aorten-Erkrankung bei congenitaler Syphilis. C. Bruhns.
67 *Die chirurgische Behandlung der Kehlkopf-Tuberkulose (of larynx). G. Finder.

56. **Uterine Cancer Operations.**—Veit expatiates on the danger from virulent streptococci and other germs in the early stages of cancer and the danger from the almost invariably degenerated heart in the advanced cases. Antibodies against the germs have developed by this stage, but the heart is ill able to stand chloroform anesthesia. He prepares the cancer for the operation the evening before by curetting and covering with gauze saturated with an antiseptic solution. When the gauze is removed the vagina is wiped dry with sublimate and alcohol. He then administers antistreptococcus serum, and commences the operation by the "hunt for the glands." After detaching the vagina and suturing, he flushes freely the wound in the peritoneum and its vicinity with alcohol, wiping it quickly away. He has been using spinal analgesia instead of chloroform in these cases, and has been much pleased with the technic and results since he adopted it a year ago, although a large amount of the anesthetic is necessary for these abdominal operations. Even if a little chloroform may be required to complete the operation, the amount is trifling in comparison. He places great stress on absolute stillness in the room during the disinfection and anesthetization. His experience confirms Lennander's in regard to the lack of sensibility in the peritoneum. Traction causes pain, but not mere contact.

Venous thrombosis is prevented by tying off the afferent arteries. In his last series of 20 cases, 2 patients died for whom he was unable to procure enough antistreptococcus serum, while all the other patients made a smooth recovery. He regards this as significant. He even affirms that death after this, as after other operations, is always avoidable. The operation must be successful if all conditions for success are insured, with special regard to infection from the germs already in the cancer and the weakness of the heart.

58. **Esophagoscopy.**—Glücksman gives 21 views seen with the esophagoscope in various affections. Most of them are drawn from nature, but two were obtained with the aid of a photographic camera.

59. **Radium in Therapeutics.**—Blaschko relates his experiences with various skin affections treated with radium. He has been particularly pleased with the effect of what he calls a radium plaster, the radium bromid being spread evenly over a celluloid plate, in a very thin layer, protected with lacquer, and fastened to the skin with adhesive plaster. He has found radium an extraordinarily effectual and absolutely harmless remedy for circumscribed, superficial tumors, malignant and innocent, and for a number of otherwise obstinate, chronic inflammatory cutaneous affections.

63. **Rachitis as Result of Domestication.**—Rachitis occurs among children and among animals as the result of defective hygiene, and von Hansemann states, is never observed in animals or children living in freedom. It develops almost inevitably in monkeys kept in captivity, no matter where. It is never observed in uncivilized peoples. In all his extensive research he has never found any evidences of rachitis in a native African. He has made numerous inquiries and has had specimens and pictures sent him of every case of alleged rachitis of which he could learn in the native tribes of the East Indies and Africa. In every instance the trouble proved to be some anomaly in cartilage development, never true rachitis. The latter develops when there is lack of pure air and freedom of movement. It is not known in Japan, but will probably appear there if the Japanese adopt European methods of building houses and dressing the babies. He remarks that we have been able to domesticate dogs, horses and cattle, but not cats. Cats are tamed, but not domesticated. This aspect of domestication was presented by von Hansemann at the Lisbon congress.

65. **Cure of Laryngeal Tuberculosis.**—Alexander gives the details of 7 cases of laryngeal tuberculosis, in which the patients were clinically cured by general and operative measures. In some cases curettement and lactic acid cauterization seemed to do actual harm, and the laryngeal process did not heal until left to itself under general measures. In one case healing proceeded by a kind of membrane formation. No operative measures were attempted in this case for fear of arousing the bacilli bound up in the membrane.

66. **Aortic Affections in Congenital Syphilis.**—Bruhns has found in a number of cases of congenital syphilis indications of inflammatory foci which correspond in every respect to the "productive mesaortitis" described by Chiari in acquired syphilis.

67. **Present Operative Treatment of Laryngeal Tuberculosis.**—Finder reviews the present status of the question and the technic practiced by various surgeons.

**Deutsche medizinische Wochenschrift, Berlin and Leipsic.**

68 (XXXII, No. 11.) *Ueber Schutzimpfung des Menschen mit lebenden abgeschwächten Pestkulturen (Vaccination against plague). W. Kolle.
69 *Die Meningococcen-Pharyngitis als Grundlage der epidemischen Genickstarre (basis of cerebrospinal meningitis). A. Ostermann.
70 Vaginal Cesarean Section.—Der vaginale Kaiserschnitt und die chirurgische Aera in der Geburtshilfe. A. Dührssen.
71 Ueber Lysolvergiftung (Intoxication). Puppe.
72 Ueber die Anwendung von Oelklystieren bei der chronischen Obstipation der Brustkinder (oil enemas for nursilngs). M. Winsch.
73 Valve Arrangement That Fits Into Any Tube and Transforms Any Syringe Into an Air Pump.—Ein Ventilschaltstück, welches jede grössere Spritze zu einer für Stauung und Punktion tauglichen Luftpumpe macht. W. Gross.
74 Address on Awarding the Kussmaul Medal to Bier. Rede. V. Czerny.

68. **Vaccination Against Plague.**—Kolle reports successful results from inoculation of 42 men with cultures of living plague bacilli attenuated by keeping the cultures at a temperature of from 42 to 43 C. The men were kept under observation for four months at least after these protective inoculations, and the absolute harmlessness of the method was fully established. The work was done in collaboration with Strong of Manila, and has already been reviewed editorially, April 14, 1906, page 1114.

69. **Prophylaxis of Epidemic Cerebrospinal Meningitis.**—Ostermann remarks that the measures to prevent the spread of meningitis in the great epidemic in Silesia last year proved utterly useless. Never was there such an extensive and obstinate epidemic, and never one so strictly supervised from the start, with medical prophylaxis so scrupulously enforced. Flügge thinks that he has discovered the reason for this failure to be the extensive distribution of the meningococci in the mouths and throats of sound individuals in the environment of the sick. At most the cocci cause in them a catarrhal pharyngitis. The cocci die off quickly on clothing, and on articles contaminated. They thrive, however, as on a congenial culture medium, in the throats of other individuals. Here they persist and infection is spread from this source. Ostermann discusses how best to cope with this danger. Nothing is yet known which will destroy the cocci in the throats without injury to the tissues, but he hopes that some substance will soon be discovered which will answer the purpose in local application. The cocci do not cause general disturbance, but remain strictly localized.

He outlines a warning circular for distribution among the laity. It describes the dangers of the disease and its dissemination by contact, by droplets of moisture in coughing and loud speaking, etc. The public are warned to observe the following precautions for three weeks after contact with a case: 1. To avoid unnecessary intercourse with other people, especially in large gatherings, and to avoid contact, kissing, and the use of common drinking and eating utensils. 2. The discharges from mouth and throat should be deposited on rags or paper handkerchiefs, which should be burned at once. If handkerchiefs are used, they should be boiled for ten minutes or left for an hour in "cresol water." If any of the discharge gets on the fingers they should be washed in this solution and floors and clothing soiled with the discharges should be copiously moistened with it. 3. During speaking and coughing keep at arm's length from other persons. The article issues from Flügge's Hygienic Institute at Breslau. It adds that as the cocci die so soon, it is of little use to send material to a bacteriologic institute for examination. It would be much better to send a bacteriologist to the spot when a case of meningitis occurs, and the author pleads for the appointment of a special bacteriologist to be sent at once to the place and there to co-

operate with the local officials. It is wise to regard every individual in the immediate environment as probably infected. The great extent of the epidemic in Silesia was probably due to the fact that the men are nearly all miners and are thus thrown into very intimate contact with each other. The cocci taken home by some of the sound "carriers" found a congenial soil in the throat of some predisposed member of the family, or were handed along to some other family. This explains why the intermediate links in the chain were not always apparent. Isolation of the sick need not be so strict as heretofore, and the disinfection of the rooms after recovery may be restricted to washing the floor, bed etc., with a solution of sublimate, and soaking suspicious body linen in the same solution. The remarkably low resisting powers of the meningococci, as soon as they have left the human body, render further measures superfluous.

### Jahrbuch f. Kinderheilkunde, Berlin.

*Last indexed, page 472.*

75 (LXIII, No. 1.) *Zur Frage der tuberkulösen Infektion im ersten Kindesalter (in infancy). B. Salge.
76 *Ueber Agglutination bei Skrofulöse. A. N. Schkarin.
77 *Die Azidose des Säuglings (in infants). L. Meyer and L. Langstein.
78 *Blutdruckmessungen an gesunden und kranken Säuglingen (blood pressure in infants). J. Trumpp.
79 Ueber den blauen Kreuzfleck und andere mongoloide Erscheinungen bei europäischen Kindern (mongoloid signs in European children). A. Epstein.
80 Ueber die Molekül-Konzentration des Blutserums bei nephritischen und nicht nephritischen Kindern. G. B. Allaria.
81 *Akute postoperative Magendilatation im Kindesalter (dilatation of stomach in children). C. Beck.
82 (No. 2.) Die Masern in Strasburg speziell an der Kinderklinik daselbst, und die im Laufe der Epidemie von 1903-04 beobachteten Kombinationen von Masern mit Diphtherie und Scharlach (1,205 cases of measles). G. Klein.
83 *New Symptoms of Affections of Rectal Mucosa.—Ueber neue Symptome der Affektionen der Mastdarmschleimhaut. K. Svehla.
84 Versuche ueber die Chlorausscheidung bei orthostatischer Albuminurie (elimination of chlorin). P. Philippson.
85 Erfahrungen ueber Mastdarmpolypen im Kindesalter (rectal polyps in children). H. v. Mettenheimer.
86 Befunde bei akuter, nicht eiteriger Encephalitis eines Kindes. B. Weyl.
87 Eine seltene Form der Spina bifida cystica. E. Grossmann.
88 Ueber two Fälle kongenitaler Atresie des Ostium venosum dextrum. M. Kühne.

75 and 76. **Tuberculous Infection in Early Childhood.**—Salge tested 80 children for serum agglutination of tubercle bacilli. All but 9 were infants. In 20, that is, in one-fourth of all the children, the reaction was positive. These findings were discussed editorially in THE JOURNAL, May 19, page 1528, as also the following article by Schkarin. The latter found positive agglutination in 25 per cent. of the children examined, belonging to what Czerny calls the "exudative diathesis," while 62 per cent. of those with what Heubner calls "scrofulosis," gave a positive reaction, and nearly 80 per cent. of those with clinically evident tuberculous processes.

77. **Acidosis in Infants.**—Among the causes of acidosis in infants with acute stomach trouble, Meyer and Langstein include hunger, disturbance in carbohydrate metabolism, and great increase in the volatile fat acids in the feces. The latter reduces the alkalinity to a notable extent, evidenced by the fact that acids appear in the stools almost completely neutralized. This explains the high ammonia coefficient in catarrhal affections of the intestine, as also in other severe nutritional disturbances. In such conditions entailing acidosis, the ingestion of fat increases the amount of the intermediate acids, and also contributes materially to the formation of fat acids in the intestines. Salge has been very successful in curing infants with catarrhal intestinal affections by removing the fat from their milk, even when breast milk was used.

78. **Blood Pressure in Infants.**—Trumpp presents here the data of 1,300 measurements of the blood pressure in healthy and sick infants. He used Gaertner's tonometer without disturbing the infant in any way. He wished to learn if measurements of the blood pressure might serve as an indicator of whether or not increase of weight was due to normal growth or to the retention of water. His experience in 2 cases seemed to confirm this last assumption, the blood pressure falling and rising abruptly, parallel to the weight.

81. **Acute Postoperative Dilatation of Stomach.**—Beck describes a case observed in a girl of 15 after appendicectomy. He knows of only one similar case in a child on record (Staffel, 1888), in which the patient was a lad of 11, operated on for contraction of both knees and deformed feet. The child succumbed sixty hours after the first symptoms: vomiting and extension of liver dullness over the entire abdomen to the symphysis, with a small area of resonance over the stomach. The amounts of fluid vomited by Beck's patient were far in excess of the amounts ingested. Differentiation was based on the comparatively tardy onset of the vomiting, the third day after the operation—this was the more striking, as the patient had not vomited under the anesthetic—and on the physical signs, the normal pulse and temperature, and the absence of fecal elements in the vomit. The stomach should be rinsed out daily; morphin subcutaneously will aid in reducing the tendency to vomit. The thirst should be relieved by sucking ice or rinsing the mouth with ice water, swallowing very little, supplemented by saline infusion and nutrient enemas. The atony of the stomach may cause compression or kinking of the duodenum, and this may be combated by the patient lying on the side or abdomen, or changing to the knee-elbow position. If these measures fail, gastroenterostomy is indicated. If the dilatation subsides, the atony of the stomach may require faradization and administration of strychnin. After recovery, great care must be exercised in the diet. Beck attributes the dilatation in his case to a postnarcotic, toxic paralysis of the stomach, with compression of the duodenum by some local peritonitic adhesions, which later retrogressed. His patient was dismissed cured in about a month, but required lavage of the stomach once or twice a day for several days before the dilatation gradually subsided.

83. **New Symptoms of Rectal and Anal Affections.**—Svehla has had occasion to observe a number of cases in which some slight irritation of the rectal mucosa, evidenced by hyperemia, or fissure of the anus, caused special symptoms hitherto supposed to be characteristic of other affections. Among these symptoms are colic-like pains, and pains in the legs, and more especially pains such as have heretofore been regarded as peculiar to hip-joint disease. In men he has known fissure of the anus to induce prostatorrhea and thus to simulate a gonorrheal affection. He cures fissure of the anus by arresting the painful spasm by a cocain suppository and salve. The relief from pain puts an end to the reflex contraction, and the fissure then heals in peace under sitz baths three times a day and after stool, with local application of a salve, and measures to insure soft stools. One or two 0.01 gm. cocain suppositories are used daily. The largest number ever required by his patients was 22, healing generally being complete in about six days. Slight irritation of the mucosa around the anus, in infants, is sufficient to cause the symptoms mentioned. [The cocain, however, must be used with caution, as there is possibility of inducing a habit.]

### Monatsschrift f. Geb. u. Gynäkologie, Berlin.

*Last indexed, page 1655.*

89 (XXIII, No. 2.) *Ueber Beginn, Dauer und Erlöschen der Menstruation (duration and end). R. Schaffer.
90 *Tuberculosis of Kidneys and Bladder in Women.—Ueber Nieren- und Blasen-Tuberculose bei Frauen. S. Mirabeau.
91 Zur Aetiologie letaler Atonien post partum. E. Martin.
92 *Fall von Puerperal-Fieber geheilt durch Total-Exstirpation des Uterus. O. Vertes (Budapest).
93 *Importance of Appendix, Etc.—Bedeutung des Wurmfortsatzes und der lymphatischen Apparate des Darmtractus. E. Albrecht (Frankfurt a. M.)
94 Statistische und anatomische Ergebnisse bei der Freund Werthelmschen Radikal-Operation des Uterus-Karzinoms. R. Schindler (Gratz).

89. **Menstruation.**—Schaeffer has been collecting data in regard to the commencement, duration and extinction of menstruation. His material includes 10,500 women examined at the Berlin Gynecologic Clinic. He tabulates his data and compares them with those of other writers.

90. **Tuberculosis of Female Urinary Apparatus.**—Mirabeau's later experience has amply confirmed his previous assertions in regard to the secondary nature of tuberculosis of the female bladder. It is always of renal origin, and has no direct connection with tuberculous processes in the genitals. He affirms also that in more than 50 per cent. of all cases only one kidney is affected. A positive diagnosis can be made without fail by the aid of cystoscopy and catheterization of the ureters, but

palpation of the thickened ureter is the most important diagnostic symptom in general practice. In case of unilateral affection, the functional capacity of the sound mate can be determined, as a rule, with sufficient accuracy by clinical observation and chemical and microscopic examination of the segregated urine. It must not be denied, however, that in isolated, dubious cases functional kidney tests may afford valuable information. The only treatment, he says, is early removal of the affected kidney. An existing pregnancy is no contraindication to operation. The tuberculous enlarged ureter can be readily palpated in bimanual examination of the vault of the vagina. Non-tuberculous processes never induce this characteristic thickening. It may be regarded as a sure sign of descending tuberculosis. Its absence on the other side indicates presumptively that the connected kidney is sound. The ureter shows this characteristic thickening even in the early stages of the affection, while the bladder is very little if at all affected. As a rule, patients with renal tuberculosis are treated for years for cystitis or gynecologic troubles, and only the lack of success of these measures suggests some morbid process elsewhere. Even then, gallstones or some gonorrheal affection is thought of rather than tuberculosis. Early search for the thickened ureter will reveal the true nature of the trouble in time for promptly successful operative treatment.

92. **Puerperal Fever Cured by Removal of Uterus.**—In Vertes' case the infection was due to the staphylococcus which had induced a septic affection in the uterus, although not very virulent. Colonies did not grow until after forty-eight hours of cultivation. It is the first case in Hungary treated by removal of the uterus. The presence of a large myoma justified the hysterectomy. The chills did not recur afterward.

93. **Importance of the Appendix and Lymphatic Apparatus of the Intestines.**—Albrecht styles the appendix the "tonsil of the large intestine," believing that it is part of an important lymphocyte camp in the intestines. The main task of the apparatus, he says, is the supplying of antibodies in fluid and organized form. He thinks it probable that the lymphatic apparatus of the entire body produces antibodies against not only the pathogenic, but also the saprophytic bacteria of daily life. It is possible, he adds, that the formation of antibodies is only part of a more general reaction to organized matters.

### Riforma Medica, Naples.

*Last indexed, page 1485.*

95 (XXII, No. 6.) Gallstones with Missing Gall Bladder.—Caso di calcolosi delle vie biliari e di assenza della cistifellea. V. Perego.
96 *Rare Forms of Typhoid Fever.—Ricerche cliniche e batteriologiche sopra alcune forme di tifo poco frequenti. A. Bruno.
97 (Nos. 7-8.) La diplococcemia nella pneumonite crupale. G. Memmi.
98 *Sulla narcosi cloro-morfio-scopolaminica. E. Lorenzelli.
99 Nuovo contributo clinico alla chirurgia dello stomaco. N. Giannettasia. (Commenced in No. 6.)
100 *Nuove ricerche sull' apparecchio tiro-paratiroideo. G. Lusena.
101 *Contributo all' etiologia del reumatismo articolare acuto. G. Volpe.
102 *Contributo alla fisio-patologia del grande epiploon (omentum). A. Cernezzi.

96. **Unusual Forms of Typhoid Fever.**—Bruno analyzes 3 cases of typhoid with peculiar manifestations, and advocates puncture of the spleen as a valuable diagnostic aid in dubious cases. He never found it in the least injurious, while the findings were always decisive.

98. **Chloroform-Morphin-Scopolamin Anesthesia.**—Lorenzelli reports the use of this method of anesthesia in 40 cases at Ferrari's clinic. The impressions were favorable. The absence of vomiting, the small amount of chloroform required, and the reduction of the patient's excitement and dread of the operation commend the method. The greatest inconvenience is that the dosage can not be individualized as the response of different individuals is not known. Another disadvantage is that the tongue is apt to drop back into the throat, and requires constant surveillance to prevent suffocation.

100. **Research on Thyroid-Parathyroid Apparatus.**—Lusena has been studying on dogs the physiopathology of the thyroid and parathyroid glands for more than eight years. His findings confirm those of others, especially in regard to the syndrome of severe intoxication which follows removal of the parathyroids alone and the attenuation of the intoxication when the thyroid is removed soon after, or pieces of parathyroids are transplanted into the animals or when parathyroid extract is injected or parathyroids ingested. These measures help the animal to survive the severe intoxication that follows removal of the parathyroids. He has found also that temporary obstruction of the circulation through the thyroid (less than six hours) has the same effect as extirpation of the thyroid in attenuating the manifestations of the intoxication that follows removal of the parathyroids. Suspending the functions of the thyroid for even a few hours enabled the animals to survive the height of the intoxication, and it gradually became attenuated afterward. His experiments all had positive results.

101. **Bacteriology of Acute Articular Rheumatism.**—Volpe has had constantly negative findings and thinks that none of the germs hitherto proposed can be accepted as the true cause of this disease.

102. **Absorption of Necrotic Kidney by Omentum.**—Cernezzi's experiments and research on the physiopathology of the omentum showed that it is capable of completely absorbing the kidney when this organ is excluded from the circulation and from its hilus and necrosis ensues. If the conditions do not favor this encircling of the kidney by the omentum and formation of adhesions, then the animal promptly succumbs to fatal intoxication.

### Sei-I-Kwai, Tokyo.

*Last indexed, XLV, page 1983.*

103 (XXIV, Nos. 11-12). Experiments on Dogs During Kakke Investigation. Baron Takaki.
104 Experiences During Russo-Japanese Naval War, 1904-1905. S. Suzuki. Read at annual meeting of Association of Military Surgeons. See THE JOURNAL for Oct. 14, 1905, p. 1194.
105 (XXV, Nos. 1-2.) *Etiological Investigation of Scurvy. K. Okada and Y. Saito.

105. **Etiologic Study of Scurvy.**—Okada and Saito report the discovery of a special micrococcus in the blood in cases of scurvy, which reproduces the principal manifestations (hemorrhages) of the disease in animals. It has agglutinative properties, and they believe it to be the specific causal agent. They cite among other arguments as to the infectious nature of the disease, that physicians unanimously report that when a case develops all the persons occupying the same room with the patient contract the disease. On the other hand, those who keep their bodies clean and are well fed are not attacked by the disease. The micrococci proved very resistant to desiccation and cold, but succumbed readily to the action of steam and of carbolic acid (2 per cent.), corrosive sublimate (10 per cent.) and alcohol (30 and 50 per cent.).

## Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF THE ECLECTIC TREATMENT OF DISEASE, Designed for the Many Students and Practitioners, Who Are Now Diligently Searching for Knowledge of the Most Direct Action of Drugs, as Applied to Specific Conditions of Disease. By F. Ellingwood, M.D., Professor of Materia Medica and Therapeutics and *pro tempore* Professor of the Practice of Medicine in Bennett Medical College, etc. In two Volumes. Vol. I. Cloth. Pp. 455. Chicago: Published by the Chicago Medical Times Co., 1906.

OPHTHALMIC YEAR BOOK, Containing a Digest of the Literature of Ophthalmology, with Index of Publications for the Year, 1905. By E. Jackson, A.M., M.D., Professor of Ophthalmology in the University of Colorado, and G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, with 42 illustrations. Vol. III. Cloth. Pp. 286. Denver, Colo.: The Herrick Book and Stationery Company, 1906.

CAUSE AND PREVENTION OF DENTAL CARIES. By J. S. Wallace, M.D., D.Sc., L.D.S., Hon. Dental Surgeon, West End Hospital for Nervous Diseases; and Assistant Dental Surgeon, National Dental Hospital, W. Cloth. Pp. 81. Price, 2s. 6d. net. London: Bailliere, Tindall and Cox, 1906.

ENTOPTIC VISION. By W. F. Barrett, F.R.S., Professor of Experimental Physics, Royal College of Science for Ireland. Scientific Proceedings of the Royal Dublin Society. May. Paper. Pp. 88. Price, 1s. Dublin: Published by the Royal Dublin Society, 1906.

ARMY LIST AND DIRECTORY, OFFICERS OF THE ARMY OF THE UNITED STATES. May 20, 1906. The Military Secretary's Office. Paper. Pp. 103. Washington: Government Printing Office, 1906.

BIENNIAL REPORT OF THE DEPARTMENT OF HEALTH OF THE CITY OF CHICAGO for the Years 1904-1905. By Charles J. Whalen, M.D., Commissioner of Health. Cloth. Pp. 368. Chicago, 1906.